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[*Authors alone are responsible for the contents of their respective Papers.*]

SECRETARY'S NOTES.

1. The following officers became members of the Institution during March :—

Commander H. G. Glennie, R.N.
Second Lieutenant J. D. F. Woodhouse, 14th Hussars.
Captain S. Goode, Bedfordshire Regiment.
Major C. V. Mainwaring, Indian Army.
Lieutenant E. S. Anstey, R.F.A.
Lieut.-Colonel G. C. Mansel, D.S.O., Durham Light Infantry.
Lieutenant W. N. Nicholson, Suffolk Regiment.
Captain H. Fulton, R.E. (Militia).
Lieutenant F. L. M. Boothby, R.N.
Captain C. P. J. Ovans, King's Own Scottish Borderers.
E. C. Ker-Seymer, Esq., late Gordon Highlanders.
Lieutenant T. H. Binney, R.N.
Commander A. C. H. Smith, R.N.
Second Lieutenant T. C. W. Fowle, 3rd Battalion Royal Munster Fusiliers.
J. S. Corbett, Esq., Lecturer on Naval History, Royal Naval College, Greenwich.
Major H. A. Lamprière, D.S.O., 7th Dragoon Guards.
Lieutenant H. F. Gordon, Indian Army.
Second Lieutenant E. H. M. Hamond-Græme, Hampshire Imperial Yeomanry.
Lieutenant W. H. Wilkin, Nottinghamshire and Derbyshire Regiment.
Second Lieutenant W. F. G. Baird, Scots Guards.
Captain C. MacI. Ritchie, R.H.A.
Lieut.-Colonel M. L. Hornby, D.S.O., Indian Army.
Colonel R. Pilkington, M.P., 2nd V.B. South Lancashire Regiment.
Captain P. Peacock, R.M.A.
Lieutenant J. A. L. Campbell, Argyll and Sutherland Highlanders.
Captain J. W. E. Donaldson, R.F.A.
Lieutenant H. K. Hamilton-Wedderburn, Scots Guards.
Captain G. Walker, R.E.

Captain F. Clifford, Coorg and Mysore V.R.C.
Captain D. M. Griffith, R.E.
Lieutenant W. C. Easton, R.N.
Captain C. S. Ker, D.S.O., R.G.A.

(No officer of the Royal Naval Reserve joined the Institution during the month.)

2. Field-Marshal the Right Hon. The Earl Roberts, V.C., K.G., etc., has been appointed Chairman of the Council for the ensuing year.

3. Admiral Sir Robert H. Harris, K.C.B., K.C.M.G., President of the Royal Naval College, Greenwich, has been appointed Vice-Chairman for the ensuing year.

4. Colonel Sir H. S. Rawlinson, Bart., C.B., Commandant of the Staff College, has been appointed a member of the Council, vice General Lord W. F. E. Seymour, K.C.V.O., resigned.

5. Major-General Sir J. W. Murray, K.C.B., Master-General of the Ordnance, will preside at the lecture on Thursday, 4th May, by Lieut.-Colonel H. A. Iggulden, on "The Tibet Expedition."

Admiral Sir Robert H. Harris, K.C.B., K.C.M.G., will preside at the lecture to be delivered on Tuesday, 9th May, by Commander The Lord Ellenborough, R.N. (retired), on "The Possibility of Our Fleets and Harbours being Surprised."

Major-General R. S. S. Baden-Powell, C.B., will preside at the lecture to be delivered on Tuesday, 16th May, by Lieut.-Colonel H. De la P. Gough, 16th Lancers, on "The Strategical Employment of Cavalry."

6. *Additional Lecture.*—Thursday, 11th May, at 3 p.m.: "A Training Service for the Mercantile Marine," by Lieutenant H. T. A. Bosanquet, R.N. (retired). Admiral Sir N. Bowden-Smith, K.C.B., will preside.

7. *Additions to Museum.*—1. A silver shaving box and shaving brush taken from the French at the battle of Vittoria. 2. The diary of Lieutenant A. Blackman, recording the above incident. (Given by Charles A. Jones, Esq.)

8. *Lending Library.*—Members returning books are requested to see that they are securely and properly packed, as many have of late been returned in a damaged condition.

9. The Council regret to learn the death of General Lord Chelmsford, G.C.B., G.C.V.O., who had been a member of the Institution since 1849. He became a member of the Council in 1874, and was for two years the Chairman. He was elected a Vice-President in 1886. At the time of his death Lord Chelmsford was Chairman of the Museum Committee, and took the keenest interest in all matters connected with the Museum.

GOLD MEDAL PRIZE ESSAY.

Subject:—

"THE BEST METHOD FOR CARRYING OUT THE CONJOINT PRACTICE OF THE NAVY AND ARMY IN EMBARKATION AND DISEMBARKATION FOR WAR, ILLUSTRATED BY THE EXPERIENCE OF THE PAST."

By Lieut.-Colonel C. E. D. TELFER-SMOLLETT,
3rd Bn. South Staffordshire Regiment.

"Non Aliunde Pendere."

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INTRODUCTION.

THE isolated position of these islands, in a geographical sense, the peculiar composition of Greater Britain, and the traditional disposition of the Anglo-Saxon race, should all combine to foster the study of what may be termed "Naval-Military" operations, of which the embarkation and disembarkation of troops is, obviously, a most important branch.

It will be found, however, on a careful perusal of our standard text-books that very little attention is, comparatively speaking, devoted to the combined action of Fleets and Armies; and this in spite of the fact recently pointed out by a distinguished politician, that "an Imperial conception of defence in our case requires that which is perhaps not generally needed as regards any other country, except Japan—the joint consideration at every point of naval and military problems."[1]

The watchword of the present day is "Imperial Federation," and the backbone of any such combination as is contemplated in these two words would be the power on the part of the isolated communities which compose the Empire, of acting together in a military sense, either for the purpose of concentrating their efforts on the defence of a particular point of the Empire temporarily threatened, as in South Africa, or of joining forces in some great aggressive movement against a common enemy. In the latter case there would probably have to be faced, not only the stupendous problems involved in the transport across the seas of vast hosts of the three arms, as in 1899 to 1902, but also their subsequent disembarkation and even re-embarkation under conditions of the greatest difficulty, sometimes on an open shore, sometimes also in the presence of the foe.

The disadvantages of an open shore, either for embarkation or disembarkation, are so excessive that every effort would of course be made to obtain access to a harbour. In any foreign country, however, the ports, and indeed any sheltered bays, would usually be carefully guarded, and the good fortune of the Japanese in gaining possession of Chemulpo and other Korean ports in 1904 must be considered altogether exceptional.

To quote the well-known words of the great historian of the Crimean War:—"Unless a man has stood in the admiring crowd which gathers to see the process of landing one horse upon an open seashore, and unless, whilst he carries in his mind the labour and energy brought to bear upon that single object, he can imagine the same toil gone through again and again, and again and again, till it has conquered the whole assigned multiple, he will hardly know what work must be done before a general can report to his Government that he has landed upon an open coast, with a thousand cavalry and sixty guns, all in readiness for either movement or combat.[2]

We may be called upon in the wars of the future to carry out operations similar to that thus graphically described, but on an infinitely larger scale. From time to time, no doubt, conjoint practices between the sister Services have been organised in this country, and the disembarkation of two guns and an Army Service Corps wagon was recently a feature in the staff ride of the IInd Army Corps, under Field-Marshal Sir Evelyn Wood, assisted by Commander Henderson, as naval adviser. Similar work has also been carried through at Stokes Bay.

Joint practice, however, on an unprecedentedly large scale, executed on the coast of Essex, will probably render the year 1904 memorable in the annals of combined naval and military operations.

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[1] Sir Charles Dilke in the "World's Work" for March, 1904.

[2] "Invasion of the Crimea." By A. W. Kinglake.

It will not be possible to consider the lessons gained therefrom until the end of this paper.

With the above exception, the combined peace operations hitherto attempted have been so infrequent and on such a restricted scale that they have not reached the bulk of the officers of either Service; moreover, experiments of which the scope is so limited cannot afford insight into many of the more difficult problems connected with the subject.

During an experience extending over a good many years, the writer was only a witness of any such operations in peace time on one single occasion, and the force then disembarked on an open shore was of the smallest possible dimensions. There is every reason to believe that there are many officers now serving whose opportunities for gaining experience in time of peace have been even more limited. The whole question may be looked at from several points of view, and it will be necessary, when writing concerning it, to wander at times rather far afield.

Periods from which Historical Examples have been Selected, and Arrangement of the Subject Adopted.

I purpose in the following pages to carefully consider and discuss some of the more remarkable operations of a combined naval and military character recorded in the history of the last fifty years.

By the aid of experience thus gained an endeavour will be made to throw a little light on the complicated problems which are suggested by the title of this paper.

The details of embarkations and disembarkations are usually so interwoven with each other that it is difficult to treat of them separately, and the historical examples of both operations, quoted in the first part of this essay, will be placed, therefore, in one chronological series.

The lessons drawn from these examples and all suggestions for their application to the combined practice of the naval and military forces of the Crown will be considered collectively in the second part.

Without doubt, some important lessons might be gained from a more prolonged retrospect; for from the days of Xerxes, maritime descents have been a frequent feature in the operations of war. In spite, however, of the temptation to recount such splendid feats as Sir Ralph Abercrombie's expedition to Aboukir Bay in 1801, I have, generally speaking, abstained from dwelling upon the history of expeditions which took place prior to 1854, because it would appear that sufficient illustrations for all practical purposes can be gathered from the naval-military operations which have been carried out from and including that year to the present time.

I have been compelled, partly by want of space and partly by the desire to avoid the repetition of very similar incidents, to omit all mention of many of the embarkations and disembarkations which were carried through even during this comparatively brief period; but it is hoped that the expeditions described will be sufficiently varied and sufficiently characteristic to cover the whole subject. As the descriptions are written with a view to giving prominence to such weak points as might be eradicated by conjoint practice, many important details are necessarily omitted.

PART I.

HISTORICAL EXAMPLES.

1.

Landing of the Allied Armies in the Crimea in 1854.

(Compiled from "Invasion of the Crimea," by Kinglake; "War in the Crimea," by Sir E. Hamley; and "British Expedition to the Crimea," by Sir W. H. Russell.)

The descent of the combined Armies of Great Britain, France, and Turkey, on the shores of the Crimea in September, 1854, has served as a model for all subsequent undertakings of a similar character, and it will, therefore, be desirable to describe it in detail, and by so doing, it will be possible to abbreviate the later examples which I shall be obliged to quote.

The English, under Lord Raglan, were conveyed in 180 transports, and consisted of 26,000 infantry, 1,000 cavalry, and 60 field guns; but were without land transport. The French, under Marshal St. Arnaud, mustered 28,000 infantry, with 70 guns, but no cavalry; and there were about 7,000 Turkish soldiers.

The Allied Armies had previously been landed at Varna, and were re-embarked early in September.

All the vessels which had been chartered for the transport of the British Army were not steamers, but as each steamer had in tow two sailing vessels, the entire fleet was moved by steam. A somewhat similar arrangement was adopted by the French.

The escorting British squadron under Admiral Dundas consisted of ten line-of-battle ships, and seventeen smaller vessels. These men-of-war were entirely clear of troops.

The French and Turkish war-ships, on the contrary, were so crowded with soldiers that, in the case of a hostile encounter, they would have been placed at a terrible disadvantage.

On this, as on several other similar occasions, great want of knowledge appears to have existed on the part of the English Staff, as to the characteristics of the country which our Army was about to invade, and a distinguished military historian has remarked that "they might almost be said to know as little as knight-errants, heroes of the romances beloved of Don Quixote, knew of the dim enchanted region where, amid vague perils, and trusting much to happy chance, they were to seek and destroy some predatory giant!"[1]

Some knowledge as to the numbers and dispositions of the Russian forces had been supplied by our Foreign Office, and as a matter of fact, this information was substantially correct. Grave doubts, on this point, appear to have existed in the minds of the British commanders; and hence, they erroneously felt themselves to be in a state of darkness as to the movements and intentions of their opponents.

Having reconnoitred the coast on board the "Caradoc," in company with Admiral Lyons, to whom the direction of the disembarkation had been entrusted, Lord Raglan determined that the Allied Forces should land on a strip of shingle, forming a causeway between

[1] "War in the Crimea," by Sir E. Hamley.

the sea and a salt-water lake, and orders were given on the night of the 13th September for the fleet to approach the land as closely as possible.

The transports were anchored in a series of lines, parallel to each other, and to the shore, and so arranged that battalions, brigades, and divisions were kept as much as possible together. One squadron of British men-of-war stood in, so as to be able to cover the landing with their fire, if it should be opposed. The bulk of our war-vessels, however, were held in readiness to engage the Russian Fleet, if it should attempt to issue out of Sebastopol harbour. It had been agreed between the British and French commanders that a buoy moored in a central position, off the strip of shingle above described, should divide the Allied Armies, the disembarkation of the British Army being carried out to the north of the buoy, whilst the operations of the French and Turks were to be restricted to the south of it.

On the morning of the 14th September, it was discovered that the buoy had been moved during the night, at a point to the extreme north of the agreed landing place, instead of at the middle thereof. The result of this was that the British ships, although really in their proper places, were apparently to the south of the agreed point of demarcation, and hence appeared to have encroached on the portion of the shore allotted to the French. It was promptly decided by Lord Raglan and Admiral Lyons that the British place of landing should be changed to a strip of beach in the neighbourhood of Lake Kamishlu, the portion of the shore originally selected being thus relinquished to the French. The Allied Armies were thus separated, and might have been compromised if their landing had been opposed; moreover, what has been described as "a painful dislocation"[1] of the British arrangements was occasioned. On the other hand, the still more serious danger to be apprehended from any dispute with the French was avoided.

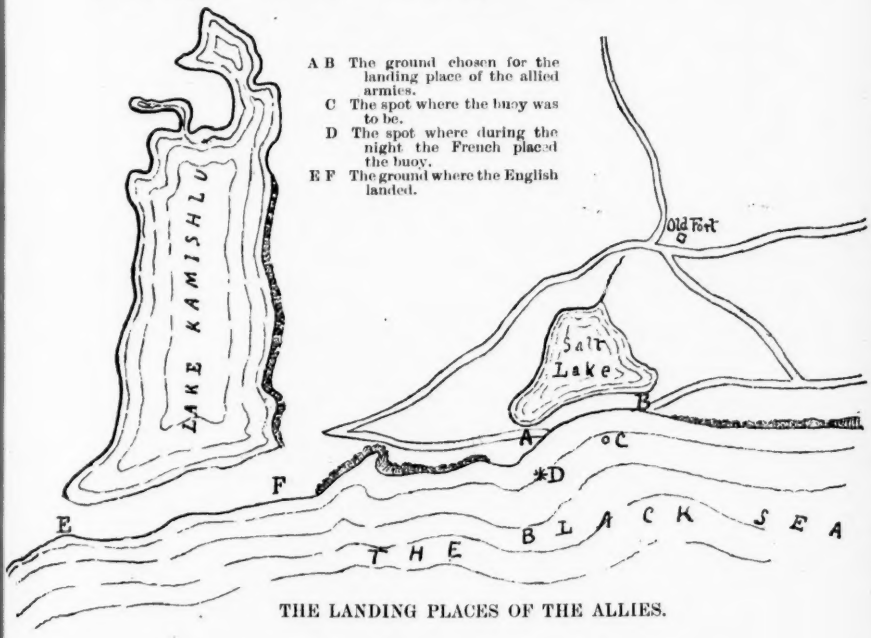
It will be gathered from the accompanying sketch that both places of disembarkation could have been easily defended in case of an attack.

Owing to the change of plans, some delay occurred, but at 9 a.m. a signal was given that the ships' boats should assemble round the transports, for the purpose of disembarking the infantry and artillery. Immediately on this signal, gigs and cutters, manned each by 8 or 12 sailors, towed paddle-box boats, flats or Turkish pinnaces alongside the transports. Our men, carrying in addition to their arms and ammunition, three days' rations, filled water-bottles, and great-coats, filed into the boats, headed by their officers. As soon as the boats were filled, on a signal they moved in a line towards the shore, on a front of more than a mile; each unit occupying whilst being conveyed in the boats, the same relative position that it was to hold when formed up on the beach. The bulk of the French troops were, as already stated, crowded on board their men-of-war, some of their battle-ships carrying as many as 3,000 soldiers each. This arrangement was the cause of much sickness, but the disembarkation was greatly facilitated by it, as the French men-of-war boats carried the troops direct from the war-ships to the shore. The British troops were conveyed under much more healthy conditions in transports, but time was lost on the day of disembarkation, because the boats from the war-ships had

[1] Kinglake's "Invasion of the Crimea."

to row to the transports. Guns and horses were hoisted out of the ships, and were conveyed to land on platforms, each mounted on two boats securely fastened together. The bulk of the infantry and several batteries of field guns reached the shore on the evening of the 14th. Towards night the wind rose, and the disembarkation of the horses and stores and remaining guns was delayed for twenty-four hours by the surf, and was not completed until the night of the 18th September.

Owing to lack of land transport, considerable delay took place in the subsequent advance into the enemy's country.


A B The ground chosen for the landing place of the allied armies.
C The spot where the buoy was to be.
D The spot where during the night the French placed the buoy.
E F The ground where the English landed.
LAKE KAMISHLU
Old Fort
Salt Lake
A
B
C
D
E
F
THE BLACK SEA

THE LANDING PLACES OF THE ALLIES.

Comments.

It is not a little remarkable that not a single British soldier was drowned during the landing of 27,000 men on a perfectly open shore. All accounts bear testimony to the admirable care exercised by both the officers and seamen of the Fleet, in assisting their passengers from the ships to the boats, and from the boats to the shore; and it has been stated by an eye-witness that the sailors helped the soldiers "tenderly"[1] during the double transfer.

Although, however, a thoroughly good feeling between the sister Services is essential, yet if a hostile squadron were in existence within a radius of many hundreds of miles, the duty of bluejackets, during a disembarkation, might lie on board their ships, rather than in helping their military brethren in and out of the boats.

[1] Russell.

In future, also, special vigilance will be necessary on the part of the crews of men-of-war when covering a disembarkation on a hostile shore, for even when an absolute command of the sea has been established, it will be still necessary to guard the transports from the stealthy approach of the enemy's torpedo-boats, as long as any of the latter are unaccounted for. As British soldiers are at all times liable to be called upon to join in maritime expeditions, it would seem that they should, by their peace training, be rendered as independent as possible when taking part in such operations.

Every precaution was taken by the French to guard against surprise, their outposts being pushed well forward as soon as the disembarkation had begun; but it does not appear that an equal degree of prudence was exhibited by the British. The fact that in spite of the utmost diligence, the disembarkation was only completed in five days merits attention, more especially as the force was unencumbered with transport horses and vehicles, the proportion of cavalry was small, and the atmospheric conditions fairly favourable.

In 1904, such a length of time would amply suffice for a hostile squadron of fast cruisers and destroyers to steam from a distance of 2,000 miles to the interruption of the descent, and to the possible destruction of the transports. Moreover, in the disembarkation of troops alone is to be discovered the exception to that general tendency towards increased rapidity of movement, which has been so striking a development of the last 50 years. It will be found, in fact, that the speed of the most recent disembarkations scarcely exceeds the record of 1854, and in some cases even falls short of it!

The principal defects in the preliminary arrangements for this expedition were, so far as the British were concerned:—

1. The failure to supply sufficient appliances for the expeditious debarkation of horses, the 24 horse and gun flats provided being inadequate in number.
2. The neglect to equip the Army with land transport. If the force had been sufficiently mobile to push forward immediately on disembarkation, Sebastopol might have fallen at once.
3. The failure to provide the Commander-in-Chief of the land forces and his staff with thorough and reliable information as to the characteristics of the territory to be invaded.

Such omissions should easily be guarded against. Nevertheless some or all of them recur with almost monotonous regularity in the histories of many subsequent expeditions; and thus in 1856 the landing of the British forces at Halileh Bay, in Persia, was delayed by an insufficiency of horse boats. It is worthy of consideration whether the chance of such omissions making themselves apparent on active service might not, on the principle that practice makes perfect, be reduced to a minimum in most cases by the institution of combined naval and military manœuvres.

With the exception of the misunderstanding which led to the dividing buoy being wrongly placed, it may be said that the details of the descent were admirably executed. Greater rapidity would probably have been attained if the soldiers had been previously trained to some extent, in time of peace, to the management of boats.

2.

DISEMBARKATION, REPULSE, AND RE-EMBARKATION OF BRITISH AND FRENCH FORCES AT MOUTH OF PEIHO RIVER, CHINA, 1859.

(Compiled from *Times* War Correspondence and Official Despatches.)

On the 25th June, 11 gun-boats, under Admiral Hope, took up a position off the Peiho forts. At 2 p.m. two of the gun-boats, having cleared a passage through the iron stakes which composed the first obstruction on the River Peiho, moved up the river and proceeded to break a boom which the Chinese had secured in position under the close fire of the forts. Thereupon, on a gun being fired, the masks which had hitherto screened the embrasures, rolled up simultaneously, and a tremendous discharge was directed on the British squadron, inflicting heavy loss on the crews, Admiral Hope himself being among the wounded. At 4.30 p.m. the enemy's fire appeared to slacken, and orders were issued for the Marines and Naval Brigade, numbering 1,000 men, to land and storm the Chinese works in conjunction with 60 sailors from a French man-of-war. On disembarkation it was found that the ground between the landing-place and the enemy was knee-deep, and, in some places, waist-deep in mud, and was intersected by three ditches, each about ten feet wide and five deep. In spite of these obstacles the gallant invaders pushed forward under a heavy fire, which had opened on them as soon as they had disembarked.

By the most desperate efforts and after suffering heavy losses, 50 officers and men eventually arrived within 20 yards of the Chinese walls, whilst another 150 were lining the nearest ditch in rear. It was now 9 p.m., darkness had set in, and the ammunition of many of the survivors had become damp whilst the men had been wading through mud and water. The position was most precarious, and orders were therefore given for the force to fall back as soon as the wounded had been carried to the rear, the gallant little advanced party covering the general retreat. This latter handful of heroes fell back in perfect order, defending each ditch in succession, and responding as far as they could to the fierce discharge which was poured upon them from the forts. Anticipating the introduction of search-lights, the Chinese burnt "flares," thus illuminating the field of battle, and in that ghastly glare were able to take accurate aim at the reeling forms of our exhausted men.

Meanwhile the gun-boats endeavoured to cover the retreat with their fire, and so manfully did they expose themselves that two of them sank during the night, and all the vessels of the squadron were badly injured. As the remnants of the Naval Brigade and Marines neared the shore, however, the ships were compelled to suspend their fire owing to the danger of striking their own friends, and it was thus necessary to leave the latter unsupported at the most critical time. On that terrible evening the British loss amounted to 464 killed and wounded, whilst the party of French sailors suffered to the extent of 15.

COMMENTS.

The above is the only example which I have been able to discover of a disembarkation followed by a re-embarkation, both operations being carried through on an open shore, and in the presence of an

enemy. Criticism appears ungenerous in cases in which extraordinary heroism has been exhibited; still it is perhaps permissible to remark that if a knowledge of combined naval and military operations had been cultivated by means of joint manœuvres held at regular intervals in the years preceding 1859, it is possible that the history of the events of the 25th June would have been widely different. *First*, because, as a matter of ordinary routine, a careful preliminary reconnaissance would have preceded any disembarkation, and this would have disclosed the treacherous nature of the ground, and might have led to the abandonment of a hopeless enterprise. *Second*, because the maxim that no debarkation should be attempted within range of hostile works until the latter have been disorganised by prolonged bombardment, would previously have been instilled into every mind, and might have been acted upon. *Third*, because the difficulty of covering a re-embarkation with the fire of war-ships would almost certainly have previously attracted the attention of naval officers, who might conceivably have arrived at some solution of the problem.

3.

COMBINED BRITISH AND FRENCH EXPEDITION TO NORTH CHINA IN 1860.

(Compiled from "Narrative of the North China Campaign," by Robert Swinhoe; "Incidents in the China War of 1860," by Colonel Knollys, R.A.; "China War of 1860," by Sir Hope Grant; "China War, 1860—Letters," by Major-General Allgood, C.B.)

The defeat of 1859 rendered necessary the despatch of a joint expedition under Sir Hope Grant and General Montauban, consisting of 14,000 British and 6,700 French troops. A preliminary disembarkation was carried out at Talien Bay towards the end of June, 1860, Admiral Hope controlling the naval arrangements. It had originally been intended that the combined fleets should run up the River Pehtang, and anchor within 2,000 yards of the Taku forts. At the last moment it was discovered that the bar which was across the mouth of the river was covered at high tide with 13 feet of water only, and hence was impassable for large ships.

It was therefore determined that the troops should be transferred to boats towed by gun-boats, and that one infantry brigade with a field battery should lead the way and act as a covering force in conjunction with an equal number of French troops. After some delay, due to stormy weather, on 1st August the flotilla steamed up the Pehtang, each gun-boat having in tow six launches filled with men. It had been intended that the landing should be made on the left bank, but the marshy condition of this bank frustrated the intention, and the disembarkation of necessity took place on the right or south bank. Even on this side the troops, after leaving the boats, had to wade for three-quarters of a mile through sticky mud before gaining a firm foothold, and many men lost their boots and other garments whilst so doing. The only quay available was relinquished to the French, but the Royal Engineers and bluejackets rapidly erected four wooden stages, which proved invaluable during the operation of getting the horses, guns, and equipment on shore. At the moment of landing, a battalion of Chasseurs pushed rapidly forward on to the ground

allotted to the British. General Montauban's attention, however, having been drawn to the matter, he ordered the Chasseurs to withdraw, and no further complications arose between the Allies.

Comments.

Several incidents connected with this descent closely resemble those which characterised the disembarkation in the Crimea.

In each case, the expeditionary force had the inestimable advantage of a preliminary disembarkation. The experience thus gained by all ranks materially contributed to the order and regularity which were pleasing features of the actual descents on both occasions.

In 1860, as in 1854, misunderstandings appear to have arisen as to the exact piece of shore to be occupied by the respective Armies. In China, our Allies gracefully gave way, but the necessity of letting every man in a responsible position clearly understand on such occasions what is expected of him was fully demonstrated on both occasions.

In China as in the Crimea, the Military Staff were ill-supplied with topographical knowledge, and in consequence the landing-place in 1860 had to be changed at the last moment from the left to the right bank of the Pehtang; and lastly, in each case, owing to a supply of drinking water not having been provided on the shore, much discomfort was endured by the troops.

Uncertainty appears to have existed on the part of the naval authorities in 1860 as to the depth of water on the bar of the Pehtang, and the plan of taking the transports up the river had to be abandoned at the eleventh hour. The simple expedient of constructing temporary landing stages, and thereby facilitating the debarkation of horses, guns and stores, is capable, as we shall see later, of considerable development.

Strangely enough, however, the experience gained in China appears to have been lost sight of when the Abyssinian expedition was being fitted out seven years later; and on its being found on the latter occasion that the boats drew too much water to touch the shore, neither skilled labour nor stores for the construction of temporary landing stages were forthcoming.

4.

Federal Expedition to Roanoke Island in February, 1862.

(Compiled from Dr. Draper's "American Civil War"; Colonel Fletcher's "History of the American War"; "McClellan's Own Story," etc.)

The Federal expedition to Roanoke Island was rendered remarkable by one of those extraordinary oversights which not infrequently make themselves felt in maritime descents, and which point to the desirability of establishing a school of thought, for the consideration of such mixed operations, by the institution of peace manœuvres, and by any other possible means.

The expedition sailed from Fortress Munro, and on arriving at Hatteras, General Burnside, who commanded, learnt to his dismay that there were only 7½ feet of water on the bar at the entrance to

Pamlico Sound, which must be crossed, and hence that no large vessels would be able to take part in the expedition. This discovery necessitated a delay of more than three weeks, during which the expedition was re-organised, and eventually, owing to the reduction in the number of transports, an entire brigade had to be left behind. The Confederates availed themselves of the breathing space thus afforded, both to throw up works and mount heavy guns on the shore of the Island, and also to strongly entrench a position some distance inland, across the road, along which the invaders must advance after disembarkation; the Confederate scheme being, that when driven from the shore, the defenders should fall back to the inland position. Owing to their utterly inadequate numbers—they mustered but 1,500 men, the invaders nearly 10,000—the Confederates were, when the invaders returned to the attack, overwhelmed after offering a stout resistance, in which they inflicted a loss of about 250 men on their opponents. If a more powerful force, however, could have been collected for the defence, it can scarcely be doubted that owing to the length of time for preparation afforded by the re-organisation of the Federal Forces, the latter would have met with disaster when eventually attempting the invasion.

It should be noted that the plan of resisting invasion on some advantageous inland position, across the line of advance of the invaders, is held by many authorities to be preferable to any strong attempt to oppose the actual disembarkation.

5.

Transport of the Russian Field Army from the Sea of Marmora and the Gulf of Burgas in 1878 and 1879.

(Most of the following details have been gathered from the Journal of the Royal United Service Institution of 1888.)

The lessons to be learnt from the transport of the Russian Army from the Sea of Marmora and the Gulf of Burgas, to the south of Russia, are of considerable value.

The force to be dealt with reached the enormous total of 138,000 men, 22,000 horses, and 7,700 guns and vehicles. Six ports of embarkation were selected. There were small existing jetties at some only of these ports, at which vessels of light draught might lie alongside; but in most cases, the Russian engineers were obliged to erect temporary stages. These stages were run out to a depth of six, or at most eight feet, and, as none of the transport drew less than twelve feet, and many of the larger vessels required twenty-four feet of water, men, horses, and equipment had to be transferred from the stages to barges or lighters, and from these boats to the transports. Some of the stages were so exposed that in rough weather the work of loading had to be suspended. About 40 sea-going transports were employed in the conveyance of the Russian Army in a series of voyages. The steamers of the Russian Steam Navigation Company were well supplied with steam winches, and their hatchways and companions were large and commodious. Great inconvenience appears to have been occasioned by the lack of these requisites on board vessels otherwise owned. The auxiliary vessels used for conveying men, horses and stores from the shore to the ships were steam-lighters,

steam-launches, barges, and large Turkish caiques. As the Turkish caiques were, singly, of little use in embarking horses and guns, a number of rafts were formed each out of a pair of caiques. The following remarks translated from the *Russian Naval Magazine* are, perhaps, worthy of quotation at length:—

> "The success of the embarkation and of loading the vessels depends not only on the skill and experience of the officers in charge, but also upon the craft (lighters, etc.) employed. In the ports of the Sea of Marmora, and at the first embarkation at Burgas, the small steam-lighters of the Russian Company were employed, and they were found to be far less convenient and advantageous than the large shallow-draught barges. Consequently, at the second embarkation at Burgas, barges were employed. The holds of the steam-lighters can only be usefully employed for transporting men and baggage from the shore to the vessel; horses, guns, ammunition, wagons, and vehicles had to be placed on the decks; and consequently, the barges are more commodious than the steam-lighters, the decks of which are encumbered with hatchways, steam-cranes, etc., which occupy space which might be more usefully employed. . . . . In addition, the barges are more easy to load, their sides can be let down, which is an advantage for running guns and vehicles on board, and horses will more readily walk up the ramps so formed, and are not frightened by the hissing of the steam, as on board the small steamers. Generally speaking, the barges were loaded nearly twice as quickly as the small steamers. . . . . The writer of the article was employed first at Biyuk Chekmeje, and afterwards at Chingil Iskilesi, and during eight months assisted at the embarkation of 159 steamers, which conveyed 2,679 officers, 109,706 men, 16,426 horses, 6,295 guns and vehicles, and he gives it as the result of his experience that *no amount of theoretical knowledge, but only practice can attain thoroughly good results.*"

The italics are my own.

Comments.

This embarkation is, no doubt, remarkable owing to the size of the force dealt with; but as we shall see later, this was exceeded as far as numbers are concerned by the vast bodies of troops despatched from this country to South Africa during the first eight months of hostilities in 1899-1900. The Russian embarkation, however, is specially worthy of being studied as a guide to the conjoint practice of our own Navy and Army, from the fact that it had to be conducted under very unfavourable conditions.

The naval and military authorities, when embarking the British forces for South Africa, had at their disposal the unrivalled resources of such ports as London and Southampton; but the embarkation of 1878-1879 had to be executed, practically, from an open shore. The temporary landing-stages could not, in some cases, be used in rough weather, and must have been more or less inconvenient at all times.

Moreover, the complicated and difficult operation of a double transfer, both of the living cargoes and of their accompanying equipment from the shore to barges or lighters, and from these to the transports, had to be faced.

The combined forces of our Empire may be confronted by such problems in the future, under even more unfavourable conditions than those described; and when considering the possibility of providing against such a contingency, the opinion of one who had had every opportunity of forming a correct judgment, which is expressed in the concluding sentence of the quotation given above, should be carefully weighed.

6.

CHILIAN EXPEDITION FROM ANTOFAGASTA TO PISAGUA IN 1879.

(Compiled from "War Between Peru and Chili," by Clements Markham, C.B.; "Chili: Sketches during the War," by R. N. Boyd; and the JOURNAL OF THE R.U.S.I.)

In 1879 a descent was accomplished by a Chilian army at Pisagua, on the coast of Peru. The invaders numbered 8,000 men, of whom 800 were cavalry, with 32 field guns, and were commanded by General Escala.

The Chilian army embarked at Antofagasta on the 28th October on board a fleet consisting of four men-of-war, two of which carried heavy modern rifled guns and Nordenfelts, and fifteen steamers. Each of the larger transports carried four flat lighters, secured bottom outwards to their sides, whilst the smaller vessels were equipped with one or two only. These lighters were of the greatest assistance, not only in disembarking horses, but also in carrying each as many as 100 men at a time from the ships to the shore.

Pisagua was defended by 900 Peruvians and Bolivians, under General Buendia. The town is situated on a strip of beach three miles long, and shut in between the Pacific and cliffs rising steeply; and the only permanent defences were two small forts. Midway between the forts a hill rose from the beach, and the town stood to the south of this hill, and a strip of land called the "Playa Blanca," on which were the railway station and some heaps of coal, lay to the north of it. From the station the railway rose up the cliff in zig-zags.

Early on 2nd November it was reported to General Buendia that nineteen steamers were in sight. He immediately posted his men amongst the coal-heaps on the beach, at the railway station, along the zig-zags of the railway, and in the town.

The Chilian fleet had by this time approached within range, and the fire of the men-of-war having quickly silenced the two forts, the boats containing the first detachment of Chilian troops rowed towards the Playa Blanca. Thereupon General Buendia's men directed a brisk fire on the occupants of the boats with their breech-loaders. The boats were immediately ordered back to the transports, and the men-of-war opened a tremendous discharge on the wretched defenders, the opposition of the latter being broken down practically by a process of annihilation in the space of half an hour!

COMMENTS.

The events of 2nd November, 1879, offer one of the very few instances on record of a disembarkation being covered by the fire of the heavy guns which are carried by modern war-vessels; the attack being resisted by troops practically unshielded. The destructive power of such weapons when employed against men in the open, or having but slight protection, may be gathered from the description of eye-witnesses, who affirm that after that tremendous discharge the beach looked "at a distance as if it were covered with flocks of white gulls—the bodies of Bolivian dead in their white uniforms of coarse Cochabamba cloth."[1]

It would appear at least possible that the increased and increasing power of the armament of ships of war may eventually lead to the acceptance of the maxim that a disembarkation should not be opposed at the moment of its execution, unless, owing to some peculiar formation of the shore or other cause, the defending forces are in some degree sheltered from the terrific blast which would be directed against them if the invaders' men-of-war were able to approach within range.

The disastrous effects which result from bad management during an embarkation were, on this occasion, well illustrated by the fact that in consequence of the omission of the Chilians to embark medical equipment, their wounded, to the number of about 200, died from neglect. The disembarkation was executed with fair rapidity, owing to the fact that the Chilian Government, although guilty of many omissions in other directions, yet took care to fully equip the expedition with the appliances necessary for landing men, horses, and guns. General Escala's tactics in ordering the troop-boats to return to the transports, and subjecting the defenders to further bombardment when he discovered that the latter had not already been thoroughly reduced, were sound, and were probably the means of greatly reducing the Chilian casualties.

7.

FRENCH LANDING AT SFAX, TUNIS, JULY, 1881.

(From R.U.S.I. Prize Essay, by Major Elmslie, R.A.)

In consequence of the shallowness of the sea off Sfax, which prevented the approach even of steam launches within 800 yards of the shore, the French resorted to several rather novel expedients. The crew of each of the six iron-clads which formed the escorting squadron constructed a raft of topsail-yards, whale-boats being lashed alongside each raft. These rafts were towed during the night as near to the beach as the steam launches could approach, and the six were then fastened together so as to form a landing stage. This landing stage was then towed by row-boats still closer to the beach, and finally the structure was warped in by means of an anchor laid out on the shore, and was kept perpendicular to the land by means of another anchor at its seaward end. It is claimed that by this expedient the whole of the French troops were enabled to land dry-shod. Two sheet-iron barges, each carrying a large howitzer, and drawing very little water,

[1] "War between Peru and Chili."

were able to approach the shore very closely, and by sweeping the beach with their fire greatly assisted the French gun-boats in driving away the defending Arabs.

8.

British Expedition to Egypt in 1882.

(Compiled from "The Campaign of 1882 in Egypt," by Colonel Maurice, R.A.; and from the War Correspondence of the *Times*, *Standard*, etc.)

In the summer of 1882, a force of 16,416 officers and men, and 5,487 horses, under General Sir Garnet Wolseley, was despatched from this country in 69 transports, having a gross tonnage of 185,000. Admiral Sir Beauchamp Seymour was in charge of the naval arrangements. In addition to the above, troops were brought from Malta, Gibraltar, Cyprus, India, etc.

It will be sufficient to trace the movements of the troops which proceeded from Great Britain and Ireland.

The embarkation went on steadily from the 1st to the 16th or 17th August, and as no question as to the command of the sea had to be considered, the transports were able to move independently, and arrived at Alexandria almost daily from the 14th to the 27th.

Arabi Pasha, who controlled the destinies of Egypt for the time, had been confirmed by M. de Lesseps in a steadfast belief that the British would not dare to interfere with the Suez Canal. By landing the force, however, from Lake Timsah, through which the Canal passes, two great advantages could be attained. The first, that Arabi's army would be taken in flank and by surprise; the second, that the disembarkation would be executed from the smooth waters of an inland lake, and hence that all chance of delay from a spell of rough weather would be avoided. For Arabi to leave the Canal unprotected, it was essential to keep him in the belief that the landing would take place at some other point; and, accordingly, orders, which it was known would be repeated to him, were issued for a general disembarkation at Aboukir.

On the 19th August all the transports that had arrived proceeded to Aboukir Bay and formed up for disembarkation, and the gun-boats approached the shore and opened fire on the defences. After nightfall, however, the fleet steamed to Port Said; which was reached next morning. Meanwhile the whole length of the Canal had been rapidly seized, and was now held by the Royal Navy. As soon as possible the ships of the expedition entered the Canal, headed by the "Penelope," carrying an advanced guard of Marines and some lighters for disembarkation, the "Helicon," with the Naval Commander-in-Chief, Admiral Seymour, and the "Thalia," having on board gangs of skilled workmen with tools and stores for the construction of stages, repairs of railway, etc., and also amply equipped with lighters.

On the 21st August, Sir Garnet Wolseley reached Ismailia, and at once pushed forward the Marines and the West Kent Regiment to hold Nelisha and cover the disembarkation. One small pier existed at Ismailia, at which the troops at once began to land; but the construction of temporary stages was proceeded with as rapidly as

possible. On the 23rd, 9,000 men were on shore, and the construction of a tram line to connect the landing-place with the railway station was also in progress, but it had not been possible to seize a railway engine, and those belonging to the expedition had not yet been landed. The ground near the landing-place was at this time piled with stores awaiting removal, and a certain congestion was noticeable. Early on the 24th three squadrons of cavalry and two horse artillery guns were pushed forward five miles to Magfar; but the disembarkation was still far from being complete, and, in fact, the whole army of 17,000 men, fully equipped, was only able to advance 22 miles to Kassassin and fight a battle by the 9th September, the intervening time having been occupied in landing horses, guns, and vehicles, and getting the various services into order.

Comments.

The lessons gained by previous descents and the teachings of modern science were alike taken to heart by those responsible for the equipment of the expedition of 1882. Railway engines and rolling stock and the skilled labour and stores for the erection of stages and the construction of railway lines were carried with the "Armada," which was accompanied by the "Thalia," practically a floating workshop, and by the condensing steam-ship "Nyanza," designed to supply the army with fresh water on landing.

Admirable ability was also displayed by those charged with the execution of the descent, and the attentions of the foe were not of a specially pressing character or calculated to cause serious delay; yet in spite of those combined advantages, in Egypt, as in the Crimea, the time occupied in disembarkation would have been sufficient to afford an enterprising enemy ample opportunity for concentrating his forces, whether naval or military, even from a considerable distance, with a view to interrupting the descent. It is difficult to believe that the admittedly tremendous obstacles which exist in the way of rapid disembarkation might not to some degree be overcome by systematic and constant practice in time of peace.

The plan of threatening Aboukir and, after thus distracting the enemy's attention, steaming under cover of night to the real landing-place of Ismailia, is an admirable example of the advantage which is conferred on the commander of an invading army by the possession of fast-steaming transports. The fact that the Egyptians were without naval resources was of the greatest advantage to us. The possession by the enemy of even a dozen well-manned torpedo-boats might have been the source of great danger to the transports, and might, until all were destroyed, have occasioned much delay.

9.

War between China and Japan in 1894-5, and Comments thereon.

(Compiled from "The Japan-China War," by Jukichi Inouye; "Chino-Japanese War," by Captain Du Boulay, R.A.; "The China-Japan War," by Vladimir.)

The disembarkations which took place during the operations of 1894-5 present some novel features from the circumstance that the sea on the coasts of Manchuria is shallow, and in most places trans-

ports cannot approach within miles of the shore. Hence, if possession of a harbour cannot be gained, wading for a long distance is often necessary before dry land can be reached.

One of the most striking descents was that of the Second Japanese Army, under Marshal Oyama, in October, 1894. The naval battle of Hai-yang-tao had given the Japanese the command of the sea, at any rate for the time, and they determined to follow up their victory by the capture of Port Arthur.

The place selected for disembarkation was at the mouth of the Hua-yuan River, and under ordinary circumstances it would have been considered very unsuited for the purpose, as the ships had to lie off about 3½ miles from the shore, and the mud was uncovered at low tide for 3 miles. Notwithstanding these disadvantages it was the best place that could be found on that part of the coast.

An advanced detachment of Marines was first landed from the Japanese cruisers, which had preceded the main body of the fleet, and these troops, meeting with no opposition from the Chinese, hoisted the Japanese flag, and were quickly followed and relieved by infantry. As soon as the latter had extended so as to cover the landing-place, parties of engineers, with the necessary stores were at once thrown on shore, and began the construction of landing-stages, both floating and on trestles, for the disembarkation of horses and guns. Owing to the recession of the tide, these stages could only be used for a few hours out of every 24; and it is not surprising, therefore, that in spite of much hard work, the whole of the horses and ponies, to the number of nearly 5,000, were only got on shore in twelve days.

On this, as on every other occasion, the Japanese displayed excellent discipline, and soon after landing, Marshal Oyama, following a course which should always be adopted in such cases, published a proclamation to the inhabitants, declaring that an army in an enemy's country had the right to levy contributions, but such right was vested in the whole army, and not in any single individual. Therefore any Japanese soldier who took property without the consent of the owner, and without having paid the latter his price, would, the Marshal declared, be severely punished. Minute regulations for the guidance of those responsible for the levying of requisitions were also published; and the Chinese soon found that these rules were fully acted up to by the invaders, the result being that the gathering of supplies for the Japanese army was greatly facilitated.

It is to be noted that although Chinese men-of-war were sheltering within about 220 miles, at Port Arthur, during the landing of the Second Japanese Army, yet they did not attempt to molest the transports. On the other hand, their presence in the neighbourhood necessitated a sharp look-out by the Japanese Navy.

10.

Expedition of United States Troops from Tampa to Daiquiri, in Cuba, June, 1898.

(Compiled from "The War with Spain," by H. C. Lodge; and "Main Features of the Spanish-American War," by Rear-Admiral Pluddermann, Imperial German Navy.)

In the spring of 1898 it was determined that a force of 15,000 should be despatched from Tampa, under General Shafter, to take

part in the operations against Santiago. On the 7th June orders were issued for an immediate embarkation, and to use the words of an historian of the war, "then was displayed a scene of vast confusion. The railway tracks were blocked for miles with cars filled with supplies tightly shut up with red tape, at which men, unused to responsibility and to the need of quick action, gazed helplessly. The cars not only kept the supplies from the Army, but they stopped movement on the line, and hours were consumed where minutes should have sufficed in transporting troops from Tampa to the port. Once arrived, more confusion and widening of the area of chaos. No proper arrangement of transport—no allotment at all in some cases, and in others the same ship given to two or three regiments. Thereupon much scrambling, disorder, and complication, surmounted at last in some rough-and-ready fashion, and the troops were finally embarked."[1]

On the 14th June, after several false alarms of attack by Spanish torpedo-boats, the United States fleet got under way, and crept towards its destination at about eight knots an hour—the limit of speed of many of the old steamers which had been chartered as transports. On arrival at Daiquiri, which had been selected as a landing-place, it was discovered that the transports were provided with *one lighter only* for the disembarkation of horses and guns, and no launches. The one available landing-stage was but partially floored, and there were no materials or tools available for its repair or for the construction of other stages.

Every boat and launch, even from the iron-clads blockading Santiago Harbour, was requisitioned for the service, and by the splendid efforts of the American blue-jackets, greatly aided by a spell of exceptionally fine weather, the infantry were got on shore during the first day of the disembarkation, two men, however, being drowned. In the absence of lighters or flats, horses and mules had to swim to shore, being simply hoisted out of the transports and lowered into the ocean; moreover, as there were no ordinary boats available to guide them to land, some 50 animals swam out to sea in the confusion and were drowned. Under the circumstances it is not remarkable that the disembarkation of horses, guns, and stores was not completed for many days. The number of animals was very limited, as owing to the omission to fit up a sufficient number of vessels for their transport, most of the cavalry horses had to be left behind at Tampa. The landing of provisions was effected with such slowness that the troops from the outset had to be placed on reduced rations; and throughout the disembarkation there was great confusion on the landing-place, which was congested with men and stores, as no officer had been detailed to assume control there, or act as base commandant.

The disembarkation was practically unopposed, as the few Spaniards in the neighbourhood of Daiquiri appear to have fled as soon as the American men-of-war opened fire. German authorities, however, are of opinion that as the rocks reached close to the sea, and afforded many places screened from the fire of the war-ships, 300 determined men, although they might not have been able to frustrate the landing entirely, could certainly have inflicted very severe loss

[1] "The War with Spain." By H. C. Lodge.

on the invaders. Great friction appears to have arisen between the military authorities and the officers of the transport steamers. "The latter had only their own advantage and that of the ships' owners in view, and did not pay the least attention to the wishes and plans of the officers of the troops. The greater part of the time they kept at a distance of from 3 to 20 miles from the shore. . . . and if at times they did assist in unloading their cargoes, they would return to sea as fast as possible as soon as fire was opened ashore!"[1] Even when the landing had at last been completed, the Army was wanting in mobility through the deficiency of land transport.

Comments.

Bearing in mind that the force engaged had been sent forth by one of the most powerful and most enlightened nations in the world, and that the descent took place at the close of the nineteenth century, it would certainly appear that the landing at Daiquiri is a unique illustration of the fact that even the most splendid resources cannot compensate for the absence of a well-established organisation carefully prepared and tested in time of peace.

The miscalculations and errors, which resulted *not* from individual incapacity—for all accounts bear testimony to the zeal and enthusiasm of American sailors and soldiers—but from an entire lack of pre-existing and established system, would have brought disaster to the very gates of the Great Republic if its forces had been pitted against an enterprising foe. The forces of the United States had been without the schooling of war for 34 years; but it is not too much to say that the state of affairs depicted could not possibly have arisen if the theory and practice of the combined action of fleets and armies had been established before the encounter with Spain as a recognised branch of naval and military art.

11.

War in South Africa, 1899 to 1902.

(Compiled from "*Times* History of the War in South Africa"; "The South African War," by Major Norris, R.E., etc.)

The events of 1899-1902 are so fresh in every mind that I shall avoid dwelling on them at great length; and it will only be necessary to indicate the nature and extent of the task accomplished.

On the 18th June, 1900, a statement was published in the *Daily Mail*, from which it appears that between the 20th October, 1899, and the 7th June, 1900, 234 transports quitted the United Kingdom, carrying 188,141 officers and men, 36,333 horses, 409 guns, and 1,951 wagons and carts. During the same period about 20,000 men and 120,000 horses and mules were despatched from various centres outside the United Kingdom to the seat of war. Altogether, therefore, about 208,000 men and 200,000 horses and mules were disembarked at the South African ports within eight months of the outbreak of hostilities, and during the whole period of the war, from October, 1899, to May, 1902, the grand total of men amounted to 400,000.

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[1] Rear-Admiral Pluddermann.

COMMENTS.

It is to be noted that, leaving guns, wagons, and stores out of consideration, each transport carried, roughly speaking, only 150 men and 10 horses to the Crimea in 1854.

Owing to the greatly increased size of merchant steamers by 1882, each transport bound for Egypt was able to accommodate, on a general average, about 237 men and 80 horses.

By 1899-1902, however, a still more remarkable increase had become apparent, and each transport bound from Great Britain to South Africa was able to convey, on an average, 800 men and 150 horses. The larger the transports the less necessity for breaking up units, and the easier the organisation and protection of convoys, as the number of vessels to be guarded will be less; hence in this respect the difficulties of maritime descents tend to diminish.

The work accomplished during the 2½ years of the South African War was a splendid illustration of the resources of the British Mercantile Marine, and was in one sense a severe test of the capabilities of both the Admiralty and War Office for maritime operations; but it can hardly be said to have presented many lessons of first importance in connection with the combined action of the Navy and Army.

Of course, in certain cases, the lack of previous preparation was revealed, and the "*Times* History" calls attention, as an example of this, to the fact that an omission to sanction an outlay of £25,000 to provide fittings for horse-stalls for sea transport before the outbreak of war, was eventually the cause of much delay and extra expense. The oft-repeated lesson of the value of peace preparation was therefore again exemplified. During the long period of the war, also, a large number of officers of both Services no doubt gained considerable experience of embarkations and disembarkations. Almost invariably, however, those responsible for these operations could call to their aid all the resources of well-equipped harbours; and hence, although much forethought and hard work were necessary, yet the tremendous difficulties and dangers which would have beset their execution on an open and hostile shore were, except in a very few instances, avoided.

The vagaries of the weather, also, could be practically ignored; and although it was important that embarkations should be made on a proper system, and that, for example, units should be accompanied by the stores and equipment necessary to enable them to take the field, yet as the disembarkations, except in half a dozen cases, took place in friendly ports, any oversight in such matters could not be productive of the same disastrous consequences as if the troops had had to face the enemy immediately on leaving the transports.

There was another condition of this contest which was of priceless advantage to the Forces of the British Empire, but which tends to limit the lessons of South Africa for the purposes of this Essay. The Boers, like the Egyptians in 1882, possessed no naval resources whatever.

This fact rendered it possible for the transports to proceed independently, and thus the delay which would have been caused by the formation of convoys, and the strain on the Navy, which would have devolved on it in protecting the convoys when formed, were alike avoided.

As a matter of fact, the transports quitted the ports of the United Kingdom, and having proceeded to South Africa at their best speed, they disembarked the troops and military stores under conditions usually presenting little difference from, and involving no greater risks than those which would have prevailed if the vessels had been engaged in carrying ordinary passengers and merchandise. No light was therefore thrown on an important question connected with joint naval and military operations, viz.:—the effect on the *moral* of both the crews of the transports and of the military passengers which might be produced by the imminent risk of torpedo attacks. The former, like all British seamen, are personally brave, but they are not trained as professional fighting men, the ships which they man are not fighting ships, and would, in most cases, be entirely unarmed, would be unprovided with torpedo-nets, and would in no sense have been constructed with a view to their keeping afloat after receiving serious damage. On the other hand, the troops on board would be environed with unaccustomed surroundings; and soldiers and merchant seamen would be alike oppressed with the knowledge that they were powerless to resist the threatening danger. The transports would be specially helpless when anchored or moored for a disembarkation, and under such conditions, the thought of a night attack might well produce some demoralisation even in the bravest hearts.

Of course, no combined military and naval expedition would be attempted until the Navy had gained command of the sea, and moreover, transports would be well guarded by our men-of-war. On the other hand, the value of destroyers or torpedo-boats, if lost when attempting an attack, would be so utterly trivial in comparison with the devastation which they might possibly produce amongst crowded transports, that the most desperate efforts to elude the protecting war-ships might be expected on the part of an enterprising enemy. A single torpedo sent home into one of the large merchant steamers, chartered as troop-ships in the present day, might mean the loss of 1,500 or even 2,000 British soldiers in ten minutes.

The subject is a difficult one, and even the most realistic combined peace manœuvres would probably fail to throw much light on it. It must not, however, be lost sight of, and I shall refer to it in greater detail later on.

12.

War Between Japan and Russia, 1904.

(Compiled from the Official Despatches, and from the Letters of the Newspaper War Correspondents.)

The author of any essay on Combined Naval and Military Operations writes in the year 1904 under the great disadvantage that, at any moment, his most carefully reasoned and firmly cherished deductions from the experience of the past, may be dashed to pieces by news from the theatre of war.

It is always difficult, if not impossible, to correctly gauge the significance and relative importance of the events in a struggle in actual progress. In the present case, the usual difficulties of such attempts are increased a thousand-fold by the exercise by both combatants of the most rigid censorship over both telegrams and letters from the front.

One of the most detailed descriptions which has been published, on the authority of eye-witnesses of reliability, is that of the first disembarkation of the war carried out at Chemulpo by a Japanese Army consisting of 20,000 men, with 2,500 horses, several batteries of field-guns, together with an enormous mass of stores estimated at 100,000 tons.

On the night of 8th February, an advanced guard of 2,500 infantry was disembarked at a small existing jetty. On 13th February, the Russian war-vessels "Variag" and "Koreëtz," having been destroyed at Chemulpo by Admiral Uriu's squadron in the intervening time, two Japanese transports arrived carrying no troops, but filled with supplies, and having Army Medical Corps details, and about 1,000 coolies for the land transport service. With the coolies came a carpenter corps of 100 men, each carrying his box of tools, and also an equal number of army blacksmiths. These were detailed to put up a blacksmith's shop close to the head of the landing jetty, and some of the carpenters proceeded to lay a cleated wooden roadway up the rough stone landing, to facilitate the disembarkation of horses and artillery.

The Medical Corps of 300 men, came ashore in charge of the supplies for their own department; small trunks, weighing about 100 lbs. each, containing necessaries for "first aid" to the wounded, etc. The coolies were engaged in landing a vast bulk of military material, and nothing seems to have been forgotten. The Army authorities appear to have trusted in no way to local supplies. The advanced transports also brought four steam launches, a hundred flat-bottomed boats, and six tank water-boats, rigged with hand-pumps. During the next few days, under the direction of the Japanese Military Engineers, temporary landing piers were erected, adjoining the permanent stone jetty.

Wooden floats, which had arrived in sections in the transports, were put together, and cleated gangways were placed across and between them, forming a continuous floor with railings from the channel to land. Korean junks were also to some extent utilised in a similar manner. Whilst these stages were in progress, supplies were coming ashore continuously. Some of the difficulties attending the landing at Chemulpo can be appreciated when it is understood that the mean rise and fall of the tide is 30 feet, and that for a considerable portion of each 24 hours mud flats, in many cases miles in extent, lie on either side of the narrow channel available for lighters and launches. The currents run like a mill race.[1] On the 16th February, seven transports anchored in the harbour, and immediately proceeded to land men and horses. The flat-bottomed boats were taken alongside, the horses raised in slings, and lowered into them, each boat carrying five animals and bearing a transport departmental flag, giving its number and the number of the landing float, to which it was to go. On arrival at the float, each horse-boat was brought up broadside on; the troopers, holding the horses' heads, leaped up on to the floats, and the horses made the 3 feet or 4 feet jump from the bottom of the boat to the floor of the temporary landing-stage, without hesitation or accident. A correspondent

[1] All that can be said in favour of Chemulpo Harbour is, that it was better as a landing place than the neighbouring coasts.

counted 20 animals landed in 10 minutes, and one a minute would be a fair average, which was kept up for hours without cessation. Rice mats were thrown down to deaden the noise. At the same time, two streams of men, fully accoutred, were pouring over two other temporary landing piers, and the disembarkation of supplies was steadily maintained at the permanent stone jetty. Men and horses were rapidly marched to the adjacent railway station, where long lines of cars were in readiness to take them to Seoul. In spite of all difficulties, the whole force, together with an immense mass of stores, was thrown on shore in a space of barely *a week* without confusion or accident. At no time were the approaches to the landing-stages in the slightest degree congested, and all eye-witnesses affirm that men, horses, guns, and above all, the immense bulk of 100,000 tons of baggage, were cleared away as if by magic.

Comments.

I have dwelt somewhat at length on the foregoing, because the details set forth give an almost ideal illustration of the perfection in the execution of naval-military operations, which results on active service from methodical peace training.

The descent was completed within a few days of the outbreak of hostilities, and hence owed none of its success to the costly teaching of immediately preceding failures in the same campaign.

In the years preceding the struggle, the Japanese had, as a part of their unostentatious preparations, carefully organised and practised a thoroughly efficient system of disembarkation, and when the day of trial at last arrived, this difficult and complicated operation was carried out with the absolute precision which is usually associated with the carefully rehearsed pageants of the Military Tournament at Islington.

Everything was in its place, and every man knew what was required of him.

Ample appliances and labour were at hand for the construction of new stages and the repair of those in existence, and it was thus possible to mitigate confusion by appropriating special and separate landing-places for the disembarkation of men, horses, and stores respectively. A sufficient supply of boats was also available; and although the resources of even Japanese ingenuity have not as yet apparently been able to hit upon any more expeditious method of getting horses out of transports than by slinging them, yet the precision and method which have prevailed have rendered it possible for this and the subsequent debarkations, which have been a feature of the war, to be effected with a speed and freedom from untoward events hitherto unsurpassed.

Recapitulation of the Lessons to be Learnt from Historical Examples of Embarkations and Disembarkations.

Most of the omissions and errors which find a place in the foregoing pages would probably be deemed incredible if they were not fully authenticated. They appear to be common, more or less, to all nationalities, to all parts of the world, and to all periods of the 50 years now under review.

We have seen that the British expeditions to the Crimea in 1854 and to Persia in 1856, were alike insufficiently supplied with appliances for the rapid disembarkation of horses; that the United States expedition to Daiquiri, in Cuba, in 1898, was altogether without such appliances; that, on the other hand, the Chilian expedition to Pisagua in 1879 was well supplied with horse-boats, but was entirely lacking in medical equipment and ambulances; that for the Roanoke expedition in 1862 vessels of deep draught were chartered to navigate notoriously shallow waters; and that for the American expedition to Cuba in 1898 transports were hired which could only creep along comparatively at the pace of a snail, and whose captains and crews were apparently under no obligation to perform the work for which their services had been specially retained. We have seen that although the value of temporary landing-stages was clearly demonstrated in China in 1860, the experience thus gained had been entirely forgotten by the time preparations had to be made for the Abyssinian expedition of 1868; that in spite of the fact that the same expedient was resorted to with success in Egypt in 1882 and in Manchuria in 1894, those responsible for the American expedition of 1898 allowed the "Armada" to depart from Tampa with neither materials nor tools for the construction of stages; that a dearth of fittings for horse-transports rendered it necessary for the bulk of the United States cavalry horses to be left behind at Tampa; and that, on the authority of the *Times*, a similar deficiency in the United Kingdom was the cause of much delay and eventual extra expense in connection with the despatch of horses to South Africa in 1899.

We have seen that in most maritime descents a certain helplessness has been displayed by soldiers which has rendered them somewhat too ready to lean heavily on their comrades of the sister Service, the varied experience of Marines, on the other hand, rendering them specially valuable at such times; that in almost all cases the disembarkation of horses has been conducted with a slowness which is in marked contrast to the general celerity of movement which is the characteristic of the age; and that although the utmost importance attaches to mobility in an invading Army, yet expeditionary forces have on several occasions been sent out without land transport.

We have seen that lack of information as to the country to be invaded or with reference to surrounding seas was the cause of inconvenience and danger in the Crimea, in China, at Roanoke Island, and in Cuba, and of terrible disaster on the Peiho River in 1859; and lastly, that the omission on the part of those in authority to make every man in a responsible position understand what was expected of him, led to misunderstandings between ourselves and the French in the Crimea and in China, and gave rise to dangerous confusion at the landing-place at Daiquiri.

Nor are such omissions and mistakes alone to be found in the examples which I have quoted. On the contrary, they appear in almost all combined naval and military operations, and where perfection in whole or in part has been achieved, it has almost invariably been the result of recent practical experience. Thus the actual debarkation in the Crimea was, on the whole, admirably executed; but those responsible had the preliminary landing at Varna as, to some extent, their guide. The authorities in this country, when planning the details of the expedition to Egypt in 1882, had before them the teaching of the disembarkation of native troops at Cyprus

in 1878, of the expedition to Zululand in 1879, and of the despatch of troops to the first Boer War in 1881.

From experience reaped in the first embarkation of Russian troops from Burgas in 1878 it became possible to introduce changes productive of celerity into the arrangements for the second and subsequent embarkations; and the ingenuity displayed by the French at Sfax resulted from knowledge previously gained at Turbakah and elsewhere on the Tunisian coast. On the other hand, the errors and omissions of the American expedition to Cuba were the outcome of 34 years of total inexperience.

Two minor but somewhat important points which have been brought out in the foregoing pages should not pass unnoted. The first, that it is somewhat doubtful whether, in the absence of strong works on shore, the commander of an invading army need fear in future any serious opposition to debarkation[1]; the second, that as the bulk of stores which must accompany an Army tends to increase, the necessity for practice in keeping clear the landing-places and their approaches, if terrible congestion is to be avoided, becomes greater and greater.

The Egyptian expedition of 1882 afforded an admirable example of the advantage which is conferred in the present day on the commander of an invading Army by the possession of fast-steaming transports, he being enabled by their agency to steam rapidly to the real point of disembarkation, after previously distracting the enemy's attention by threatening a descent elsewhere. Possibly, however, such an operation might not be often practicable during peace manœuvres.

In conclusion, it is important to note that although the events in the Far East have presented in illustration of the advantages of peace practice, several descents executed with faultless precision, yet they have offered little experience of the effects of torpedo attacks on moored transports.

PART II.

Causes to which Miscarriages and Errors in Embarkations and Disembarkations have been Attributable.

If the historical pictures already drawn be carefully analysed, it will be found that, generally speaking, miscarriages and errors have been attributable to a bad system of administration, and to lack of peace preparation, rather than to any fault on the part of the individuals, whose duty it was to carry out the actual execution of the descents. For example, the United States' sailors and soldiers, who gallantly risked their lives off the coast of Cuba, were in no way to blame for the want of appliances for landing horses, or for the error through which the captains of the transports were not bound by their contracts to render reasonable assistance in the debarkation. In most cases, also, in which any error of judgment has been displayed

[1] This was written before the disembarkation of Sir John French's force on the coast of Essex. Many who witnessed that operation are of opinion that it might have been frustrated if a determined resistance had been offered at the moment of landing.

by those responsible for the actual disembarkation, the mistake has been attributable to want of experience in the particular class of work.

It has already been pointed out that the incidents of the landing on the Peiho River in 1859 would probably have been totally different if those responsible had had the advantage previously of a regular peace training in combined Naval and Military operations. It has been truly said, with reference to the preparations for operations of this kind, that "an inferior man can do well with a good system, better than a superior man with a bad system; for a good administrative organisation will go on for generations, sometimes carrying poor administrators with it. But a really bad system is well-nigh hopeless, and the men of genius, who can bring order out of chaos and strength out of weakness, are very rare."[1]

Suggestions for the Conjoint Practice of the Navy and Army.

I now approach the second and most difficult portion of my task. It has been often said, and truly said, that nothing is more easy than destructive criticism, nothing more difficult than the formulisation of reforms and systems calculated, not only to attain the immediate object in view, but which would also be practicable under the conditions which prevail.

The suggestions which follow are advanced with a good deal of diffidence, and after much consideration, in the hope that they may offer in rough outline a possible means of preparing the Navy and Army, in time of peace, for the demands for joint action which may be made on them in the future wars of the Empire.

It will be advisable, however, to first point out that minute instructions on almost every point connected with the embarkation and disembarkation of men, horses, and carriages, have been issued from time to time in Army Orders, and in Official Publications, such as the "Admiralty Transport Regulations," "The Mobilisation and Embarkation of an Army Corps," etc., and a vast quantity of valuable information is therein contained with reference to the hiring and fitting of transports, the treatment of horses on board-ship, and many other kindred subjects. Under the circumstances, therefore, it would be entirely beyond the limits of this Essay to recapitulate, however briefly, the detailed mass of information which has thus been officially put forth. Moreover, the bulk of it has been condensed into readable form in "The Soldier's Pocket Guide," in "Lectures on Staff Duties," and in other equally well-known works; and I shall therefore try, as far as possible, to avoid the useless repetition of facts and details which are within the easy reach of any person who may take interest in Naval and Military matters, and shall confine myself to the consideration of such portions of the subject as have not as yet been entirely simplified, either by official edict, or by the custom of the Service, based upon the teachings of prolonged and practical experience. In dealing with combined practice it will be convenient to consider the matter in the first instance from the most elementary point of view.

[1] "War with Spain," by H. C. Lodge.

Comparison Between Blue-Jackets, Marines, and Soldiers.

In a very able essay, which was published in the Journal of the Royal United Service Institution in 1895, it was remarked by Captain Rose, R.M.A., that "In the actual disembarkation there will always be a great difference in the 'handiness' of the mere soldier and of those who are trained to the sea, which is fairly represented by the Naval saying, 'that into a boat which would hold with ease 100 blue-jackets, they can get 80 marines and only 60 soldiers.'"

That this saying represents a solid fact and not a mere expression of opinion is evidenced by the circumstances that Marines were the first troops to be pushed forward both in the British disembarkation in Egypt, in 1882, and in the Japanese descents in Manchuria in 1894.

In view of the liability to be called upon to take part in maritime operations, which attaches to all members of the land forces of this country, it would appear that the training of the latter, in peace, ought to be so regulated that a proportion of them at least might attain to some of the "handiness" of the Marine.

Owing to the custom which prevailed in the eighteenth century of embarking battalions of the line on board men-of-war, to act as Marines, it is probable that 150 years ago the British Army, as a whole, was better fitted to take part in over-sea operations than in the present day.

Peace Training of British Soldiers.

At the opening of the twentieth century, British soldiers have practically no sea-training; yet, the need for such training has long been recognised, and as far back as 1804, Napoleon fully appreciating its importance, took special pains to introduce amongst a proportion of the soldiers destined for the invasion of this country, some knowledge of the handling of boats. As a matter of fact, a large number of the vessels collected one hundred years ago at Boulogne for the invasion of England were lightly built boats, each capable of carrying 60 soldiers, and the latter being specially trained to man the oars, it was only necessary to tell off two blue-jackets to each boat to supervise and command.

In future expeditions, it is true, the troop boats will usually be towed into close proximity to the beach by small steamers, but the latter will not be able to proceed until the troop boats actually touch the shore, hence for the last few yards, under the most favourable circumstances, the boats must be propelled by oars. If soldiers could be trained to supply this propulsion, only two or three seamen would be required in each of the boats to take them back, when empty, to the attendant steamers. The calls on the men of the Royal Navy would thus be greatly reduced, and the bulk of the crews would, during a disembarkation, be available for duty on board the escorting men-of-war, in case of any emergency suddenly arising.

Any suggestion for joint naval and military training will probably meet with objections from two directions. From the Navy, that in an age when men-of-war are filled with elaborate and delicate mechanism, the skilful handling of which involves an immense amount of practice, sailors have too much to occupy their time for them to have leisure for schooling soldiers in the elements of nautical work.

On the other hand, military men would urge that in these days of short service, soldiers have already more than enough to learn during the few years that they spend with the colours.

But surely such difficulties might yield before an application of the principle of "give and take"? All men-of-war's men are not specialists, daily occupied in the more highly technical branches of their profession! One experienced seaman could give elementary instruction to a considerable number of soldiers, and a sufficient number of blue-jackets or petty officers would certainly volunteer for such work, especially if a slight increase of pay attached thereto. A dozen good men acting as instructors, under the supervision of a lieutenant R.N., would work wonders during a single season in the way of accustoming a proportion of the troops in any garrison to the handling of boats. The latter might be lent by the Admiralty, and it is inconceivable that the temporary withdrawal from their ordinary work of a lieutenant and a few blue-jackets would affect naval efficiency at such places as Portsmouth, Plymouth, and Chatham, or even at Pembroke Dock or Queenstown.[1] If we look at the matter from a soldier's point of view, I would ask, is it not possible to spare a few men at a time for training in work which would not only be of the greatest value in the hour of need, but would certainly tend to develop physique, and would, by its very novelty, probably also tend to make the Army more popular with recruits?

Men are constantly struck off regimental work in large garrisons to go through courses of instruction in such subjects as "big gun drill," no doubt important in themselves, but not one whit more so to the soldiers of a maritime Power than a knowledge of boating.

Doubtless it may be said that this is but the fringe of conjoint naval and military practice; but apart from its instructional value, the establishment of a system such as that which I have endeavoured to outline, might tend to break the ice of naval and military exclusiveness—if any such sentiment exists—and be a first step in the direction of combined peace work. As we shall see later, a knowledge of rowing on the part of a proportion of the men in every unit might have an important bearing on the feasibility of conjoint manœuvres.

Remarks by His Royal Highness the Duke of Connaught on Combined Military and Naval War Operations.

In closing a debate which followed a lecture delivered by the late Admiral Colomb to the Aldershot Military Society in 1891, H.R.H. the Duke of Connaught made certain observations which may well be used as a preface to pages dealing with the subject of joint peace manœuvres:—

> "We must remember," said His Royal Highness, "that the success which attended the landing at Aboukir Bay was largely helped by the great practice which the troops had received while delayed at Marmorice Bay by adverse winds. I do not know whether the admiral or the general was the responsible person in teaching the troops to overcome the difficulties of disembarkation, but at any rate, the combination was so effective that we find

[1] If lieutenants, R.N., could not in all cases be spared, officers of the R.N.R. might be specially selected for this duty.

them when they arrived at Aboukir Bay all falling into their places at once, and landing in the face of an enemy with the greatest facility.

"I cannot help believing that in such places as Portsmouth, Plymouth, and Chatham, it would be of great advantage if the military forces there had some opportunity of practising such difficult operations. I regret to think that there are no such opportunities at present, and I am inclined to believe that there is an idea at the Admiralty that the naval duties to be performed are so important that neither ships nor men can be spared to assist the Army in operations of this kind. . . . I hope that those in authority will see their way, without interfering with the many important duties and courses which seamen have now to be put through, to recognise this important branch of manœuvres, if only for a few days in each year. If some practice of this kind—combined naval and military manœuvres—were carried out, it would be a great advantage to both Services.

"I can only repeat what Admiral Colomb and other experienced speakers have said with respect to the great importance of the two Services being on the most friendly terms. As Chairman, I shall only, I am sure, be expressing the views of every soldier here, when I say that we look upon the two Services as one Service. It matters not whether we wear a blue coat or a red coat; we enter both Services in the interest of the same Crown and country. We exist for their protection, and our objects are identical, though we go about them in different ways."

The Defence Committee.

When His Royal Highness thus spoke, no power existed capable of producing co-ordination between the sister Services in time of peace. The formation of the Defence Committee has established an authority capable of dealing collectively with the Navy and Army, and hence one of the principal obstacles to combined practice has disappeared. Indeed, if the Defence Committee had not been in existence, it is doubtful whether it would have been possible to successfully carry out the conjoint practices which have marked this year.

Existing System of Independent Naval and Military Manœuvres

Every reader of a daily newspaper is aware that each year all available men-of-war are mobilised and are formed into opposing squadrons, which are manœuvred against each other. These manœuvres usually last for some weeks, and are based on an "idea" or "scheme," designed to afford an insight, unobtainable at other times, into some of the larger and more complicated problems connected with naval tactics and strategy.

In the military world hitherto, under a similar system, brigades, divisions, and army corps are concentrated at Aldershot, Salisbury, or other locality providing a suitable manœuvring area, and engage in a mimic campaign, under conditions which are made to approximate

as nearly as possible to those which might be expected to prevail on active service. It is obvious that to frequently interrupt these annual operations, whether naval or military, would be to deprive admirals and generals and their respective staffs, if not of their only opportunity, at least of one of their principal opportunities in peace time, for gaining practice in the exercise of extended command under something approaching service conditions. Any proposal, therefore, for the substitution, in place of independent manœuvres, of joint practices in the special work of embarking and disembarking troops should naturally be very closely scanned; and it will at once be realised that, invaluable as such conjoint practice would undoubtedly be, its advantages might be rather dearly purchased if they entailed any limitation of the already too brief opportunities which are accorded to the higher ranks of both professions.

Possible Modifications in Present System.

The task to be accomplished is, therefore, the formulisation of a plan for joint manœuvre which, whilst giving practical insight into the details of embarkations and disembarkations, would reserve to the leaders and *personnel* generally, both naval and military, the same advantages as under the existing system. It is obvious that if a "scheme" for combined manœuvres were too closely modelled, for example, on the descent in the Crimea, the work of the *personnel* of the Navy would practically resolve itself into the uninstructive task of handing thousands of soldiers in and out of the ships' boats, and rowing or otherwise conveying them, with their field guns, stores, and horses to shore. The prospect of such a substitute for the present naval manœuvres could hardly be expected to awaken any excessive enthusiasm on the part of those responsible for the efficiency of the Royal Navy.

It is true that in 1854 a watch had to be maintained on the entrance to Sebastopol harbour, but the Russian war-vessels were apparently believed by their admirals to be utterly powerless in the presence of the combined squadrons of Great Britain, France, and Turkey, and as we have seen, no attempt was made to interfere with the descent. It must be borne in mind, however, that in the days of the Crimea torpedo-boats did not exist, and steam was in its infancy.

Referring to the difficulty of sealing up an enemy's ships of war in the present day, Commander Ballard, R.N., remarks in a Prize Essay, which was published in the Journal of the R.U.S.I. in 1898, that "it would be proposed to strain every effort to keep constantly in touch, as near as might be, with each one of the enemy's ships. The perfection of the arrangement would be absolute blockade, or any other similar plan by which they had to pass observed within range of our guns, before getting away to sea. In many cases, however, perfect blockade is unattainable by any known means, so we should simply have to be prepared to make it as effective as was humanly possible, relying for the rest on our cruisers, held ready for the purpose, being able to follow and eventually run down an escaped ship, on receiving knowledge that she was at large."

In an essay awarded the Gold Medal of the R.U.S.I. in the present year, Lieutenant A. C. Dewar, R.N., also remarks that "as steam has greatly increased the chance of a fleet escaping unobserved on a

dark night, the blockading force unable to actually reconnoitre a fortified port, will always be uncertain whether the enemy is there, and must rely on news from the nearest telegraphic base."

The incidents of the conflict between Japan and Russia on the whole confirm these views; and it is submitted that all "ideas" for conjoint practice in embarkation and disembarkation between the two Services in the present day might be based on the assumption that, although command of the sea had been obtained, yet that flotillas of "*hostile*" torpedo-boats, torpedo-boat destroyers, and even of submarines, together with a few larger men-of-war, were waiting an opportunity to attack the transports whilst sheltering under the guns of any military harbours within some hundreds of miles of the scene of the projected landing, and hence that such harbours must be blockaded.

If "ideas" of this kind were well developed, the work of the Navy during combined manœuvres might be made to approximate as far as peace conditions would allow, more nearly to the achievements of Admiral Togo's squadrons in 1904, than to the secondary sphere of usefulness forced by circumstances on Admiral Dundas's fleet in 1854. Indeed, as the blockaded or "*hostile*" flotillas would of course be manned by British officers and men, it is perhaps permissible to assert that they would exhibit considerably more enterprise than has been displayed by their Russian prototypes during the present campaign, and hence that the instructional value of the manœuvres might be almost indefinitely increased, with the result that one of the principal objections to conjoint practice from a naval point of view would have been almost reduced to a vanishing point. Moreover, if as already suggested, a proportion of the men of the land forces had been previously sufficiently trained to enable them to give a hand with the oars of the troop-boats, the duties of the Navy in connection with an actual disembarkation would be limited to a great extent to supervision only, and hence the necessity for withdrawing a large percentage of officers and men from their more legitimate duties on board ship would, to some extent be obviated.

In considering the subject of conjoint manœuvres, with special reference to its bearing on the general efficiency of the Army, there is apparently no reason why an invading Army should not be opposed, not only during its disembarkation, but after the completion thereof, and under such circumstances ample opportunity would be afforded for carrying through on land operations differing little, if at all, in their scope, from those which find a place in the ordinary manœuvres at Aldershot or Salisbury. Doubtless neither the time nor money available would permit of both combined and independent manœuvres every year, and it would certainly be most undesirable to compel the sister Services to act in combination for all manœuvres. It is submitted, however, that it might be feasible to have conjoint practice every second year, provided the "*scheme*" or "*idea*" were drawn up by a committee composed of experienced officers, naval and military, and carefully framed with a view to affording openings for the practice of the special work of each Service.

No doubt such "*schemes*" would contain elements of what may be termed "make-believe." Anybody, however, who has had the slightest experience of peace manœuvres must have realised that some degree of unreality is, in most cases, unavoidable; and if combined practice is to be tabooed on the ground that this element cannot be excluded

therefrom, then most certainly the independent manœuvres of both Services must equally stand condemned. Moreover, some of the principal difficulties of embarkations and disembarkations are due to the forces of nature—storms, tides, etc.—which must be battled with in peace as in war. It would appear therefore that peace practice in such operations would be specially realistic and specially instructive.

Points in Connection with Embarkations and Disembarkations to which Special Attention should be Directed During Conjoint Practice.

a. With Reference to Training of Personnel.

The best method of effectively covering the landing or re-embarkation of troops in the presence of an enemy with the guns of a squadron might well receive the special attention of gunnery experts during peace manœuvres.

That this matter is of considerable importance was demonstrated at the re-embarkation in the Peiho River in 1859, as already described, and according to newspaper reports even as recently as the 21st April in the present year (1904), during the landing of some British sailors and soldiers for an attack on the Dervish stronghold at Illig, in Somaliland, difficulty was experienced in using the guns of the ships to support our men.

It is of course conceivable that if the ground near the landing-place is very flat, no possible solution of the problem could be discovered; still, careful and repeated observation might help in practice to minimise the difficulty.

The protection of transports whilst a disembarkation is in progress might provide some interesting lessons. The late Admiral Colomb, in a lecture delivered at the Royal United Service Institution in 1896, drew attention to the fact that "the transports of the modern invading flotilla are open to sudden and terrible destruction at the hands of insignificant agencies used as torpedo-vessels and rams, which could not have been even imagined 100 years ago."

Most authorities, as previously noted, appear to believe that leakages, in the shape of individual fast vessels, will take place from an enemy's harbours however carefully watched, and such leakages from any harbour within some hundreds of miles of the scene of a disembarkation might be the source of great danger to the transports. To fully realise the extent of this danger, it must be borne in mind that an army corps and a cavalry division would require 134 large steamers for transportation, and that in case of a disembarkation on an open shore, if a mile and a half of beach were available, only seven of these vessels could be anchored or nine moored in one line opposite the proposed landing-place.[1]

Assuming that the whole of the fleet of steamers was moored on the usual plan, in a series of parallel lines, 400 yards apart, an enormous parallelogram 1½ miles wide and more than 3 miles deep would, so to speak, be marked out on the ocean by 134 steamers, helpless, unmovable, and crowded with soldiers, horses, and equipment!

[1] *Vide* "Lectures on Staff Duties."

I have already alluded to the fearful anxiety which might not unnaturally prevail during darkness or fog amongst the occupants of vessels thus placed if any uncertainty prevailed as to their liability to torpedo attack. The comparative immunity from wholesale destruction which has, generally speaking, been enjoyed by the Japanese transports during the present war, might perhaps suggest that the danger is more apparent than real. The naval strategy of the Russians has, in this as in other directions, left much to be desired, and in any case it is certain that nothing could be better calculated to dispel any feeling of anxiety on active service, with its tendency to produce demoralisation, than repeated demonstrations in peace manœuvres of the facility with which the transports could be guarded against any such risk.

Opinion may be divided as to the exact method by which protection could be provided; but it can hardly be doubted that if the *personnel* of the Navy were practised in this kind of work with reasonable frequency in peace time, considerable light might be thrown on the whole question of the safety of moored transports, more especially at night or in foggy weather.

At first sight it might hardly appear needful to insist on the necessity for information; but the examples quoted in the first part of this essay have shown that inconvenience and danger have been caused, not once only, but over and over and over again during maritime descents, by ignorance on such points as the depth of water available and the character of the land to be invaded. In combined manœuvres, therefore, it would be established as a matter of regular routine that before the selection of any particular landing-place, a careful investigation should be made, not only by means of existing Admiralty charts, but also practically on the spot by naval officers especially detailed, with regard to the depth of the adjoining sea, the existence of submerged rocks, the rise and fall of the tide, the extent of anchorage, the possibility of the close approach of transports to the shore, the best position for the men-of-war detailed to cover the landing with their fire, any formation on shore which might afford shelter to the defenders from the fire of the latter, etc. The probable existence of submarine mines would require to be also investigated.

The extent to which balloons might be utilised on board ship to gain information before a disembarkation should be made the object of careful experiment, for it is a matter concerning which it is probable much has to be learnt.

Passing to the purely military side of the question, it should be noted that the officers of the Army Intelligence Department, in addition to tabulating all available information, would be required, before a landing, to reconnoitre as far as possible, and report on such matters as the proximity and position of the enemy, the existence of any favourable ground which the first troops disembarked might seize and hold to cover the disembarkation of the rest; any obstacle to forward movement, such as entrenchments inland, across the probable line of advance; the nature of the roads, the possibility of obtaining forage, provisions and land transports; the water supply; the suitable places for camps; the available buildings, and generally on every feature, natural and artificial, which might influence freedom of movement and facility of supply. Every step of an embarkation or disembarkation from an open shore could be practised with advantage to all ranks of the land forces. I lay stress on the condition that

these operations should be executed on an open shore, or at any rate, in a harbour ill supplied with necessary appliances, because British soldiers have considerable experience of embarkations and disembarkations in well-equipped ports, when moving from one station to another, and further instruction therein is unnecessary.

Conjoint practice would include the preliminary dash to shore, after any opposition offered had been reduced by the fire of the covering men-of-war, and any submarine mines had been cleared away, of a proportionate force of marines or infantry, in boats formed up in columns, "line ahead," each column being towed by a steamer with a quick-firing gun in her bows. This advanced guard would, immediately after reaching the beach, be pushed boldly out, both inland and on the flanks, to cover the disembarkation of the main body. It would be followed in rapid succession by cavalry and horse artillery, destined to spread over the invaded country, to keep in touch with the enemy if the latter is in retreat, to gain information of his position if he has not been encountered, and to serve as a strategic screen to the invading Army.

We might expect to see at an early stage of a debarkation, the conveyance to shore of the necessary stores and skilled labour for the construction of temporary landing-stages or piers, and their subsequent rapid completion; and these once established, the most determined efforts should be made to accustom troops to completing the disembarkation with the greatest possible speed. In such a situation nothing could be gained by delay, and it is possible that if the time occupied were unduly prolonged, inconvenience and danger would arise, even during peace manœuvres, from a change of weather.

Special attention should be given to, and valuable experience might be gained from, peace practice in such matters as the best means of keeping the stages, and landing-places, and the approaches thereto, clear of troops and stores, the rapid construction and utilisation of tram lines, the expeditious organisation of ordnance and supply and water depôts and hospitals, and generally of those departments on which an army must depend for its efficiency.

No doubt a good deal of knowledge in relation to these problems lingers in the Service, as a legacy from the campaigns of the past, but as far as I can discover, there is little tradition in existence as to the even more difficult operation which is represented by the feat of re-embarking an army from an open shore, in the presence of an enemy, and after a repulse.

The history of the disaster on the Peiho River in 1859, is almost the only guide which we have on the subject, and on that particular occasion it will be remembered that the total number engaged was very small, and the little band of heroes who covered the retreat were unencumbered with horses, guns, or stores.

The question of re-embarkation would merit special attention, therefore, during any peace manœuvres, and under the most favourable conditions as regards weather, it is probable that the task of getting a large body of the three arms, from the beach to the attendant transports, would impose a tremendous strain on the Navy and Army alike, and might bring to light difficulties hitherto undreamt of.

Before leaving the question of the training of the *personnel*, it may be appropriate to describe the preparation which was deemed

necessary for troops destined to take part in over-sea operations by the great master of the art of war.

It has been customary to neglect the lessons taught at Boulogne in 1804, because Napoleon's scheme came to naught, and it is often forgotten that such failure was the result, *not* of any mistake as to details, but of the cardinal fact that the command of the sea was held by the English and not by the French Fleet. The Emperor's instructions were of such a minute and precise character, as to admit of no mistake, and hence the inferior commanders had nothing to do but obey the orders which they received:—

> "Every battalion, every company, received the boats destined for its use; every man, down to the lowest drummer, was apprised of the boat, and the place in the boat, where he was to seat himself. At a signal given, infantry, cavalry, and artillery, were at once put under arms, and ranged opposite to the vessels on board which they were respectively to embark. A cannon was discharged, and all the field officers dismounted, and placed themselves at the head of their respective corps; a second gun was the signal to make ready to embark; a third, and a word of command—'Colonels, Forward!'—was heard with indescribable anxiety along the whole line; a fourth, which was instantly followed by the word 'March.' . . . . the soldiers, in perfect order, hastened on board, and each to his appointed place; in 10½ minutes, 25,000 men were embarked. . . At the next signal, the order to disembark was given. The re-landing was completed nearly as quickly as the embarkation; in 13 minutes from the time the soldiers were on board they were drawn up in battle array on the shore."[1]

b. With Reference to Matériel.

It is a matter of ordinary observation that in daily life articles which are not needed for regular use, are usually not forthcoming when eventually required. Past experience indicates that this is specially the case with the equipment necessary for over-sea operations, and, although a sufficient supply of such requisites as stalls for fitting horse transports, and barges for conveying the steeds to shore, etc., may theoretically be kept in store, yet, on sudden emergency, it has too often been discovered that some or all of these essentials have, to use the quaint phraseology of the author of "The Spanish War," been "lost like an umbrella."

If conjoint practices were instituted in this country, it would be most important that when carrying them out particular attention should be directed, not only to the question of the existence of all special equipment, but also to its condition, whether serviceable and thoroughly up-to-date or otherwise. The most suitable methods for appropriating ships, in whole or in part, as supply or ordnance depôts, and the best class of tank boats for the conveyance of water from the distilling vessels to shore, should also be closely gone into

[1] Memoirs of Marshal Ney.

whenever opportunity offers. The possibility of accelerating the speed with which embarkations and disembarkations on an open shore can be effected is, no doubt, a matter of opinion, but it is quite certain that experiments to test the question, by the employment of modern inventions or the utilisation of old appliances in a new way, could be much more advantageously carried out during the comparative calm of peace manœuvres, than under the disturbing influences of active service.

In an essay published in the JOURNAL of the Royal United Service Institution, about eight years since, Major Elmslie, R.A., drew attention to the fact that there were then in the market large stern-wheel steamers, 150 feet long, by 30 feet wide, with a displacement of 150 tons, and capable of steaming 15 miles an hour. These vessels only drew about one foot three inches of water, and could apparently convey half a battalion, or the equivalent weight of horses and guns at a time. During the French operations off the coast of Madagascar in 1895-96, flat-bottomed steamers of two types were actually employed. The larger type capable of steaming 8 knots an hour, with a draught of $27\frac{1}{2}$ inches; the smaller type with a speed of 6 knots, and only a draught of $15\frac{3}{4}$ inches of water.

There can be no reasonable doubt that if steamers of the kinds described could be made available to any great extent, the rapidity with which landings might be effected would be greatly augmented, and peace manœuvres should therefore be utilised with a view to providing exhaustive trials of their adaptability for the purpose of such vessels.

On the principle of not risking too many eggs in one basket, it is usually considered advisable not to have more than 40 men in one boat, if opposition to the debarkation is expected. It would, therefore, in most cases, be wise to carry the advanced party to shore in ordinary ships' boats; but in the later phases of a disembarkation, vessels of an increased size might be valuable. As the tendency in the present day appears to be against the idea that an invasion is best repelled at the moment of disembarkation, it would seem that the employment of large vessels for the conveyance of troops from the transports to the shore is less dangerous now than formerly.

The time-honoured system of hoisting each horse out separately from the transport and lowering it into the attendant barge still finds a place in 1904, even in the admirable and carefully thought-out arrangements of the Japanese. It is to be feared that until some substitute can be discovered to take the place of this cumbersome process, invading Armies will continue to suffer both from the delay in the disembarkation of their horses and from paucity of horses for land transport and cavalry, which is the outcome of a desire to minimise such a delay as much as possible.

The rate of slinging appears to vary from 20 to 40 animals in an hour from each set of tackle, and the horses are lowered into and conveyed to or from shore in barges, which in our Service are about $35\frac{1}{2}$ feet long by $10\frac{1}{2}$ feet broad, and are fitted with falling-down sterns, over which horses can be walked.[1] Each of these barges is built to carry ten horses or two field guns at a time.

[1] Experiments have recently been made with a new pattern horse-boat, but the results are said to have been unsatisfactory.

An ideal system, both as regards speed and convenience, would have been established if in favourable weather horses could be walked in a continuous string along gangways from the transports to the barges, and *vice versâ*.

The expeditious embarkation and disembarkation of horses is one of the most pressing problems connected with the subject of over-sea expeditions, and merits the careful attention, not only of naval and military men, but also of naval architects and constructors.

The present system appears to linger almost as an anachronism amidst the bustle and excessive hurry of the twentieth century, and in any conjoint peace practice every effort—indeed, it may be said the principal effort—should be directed to overcoming a difficulty which, if left unconquered, might at any time bring disaster to the most carefully prepared expedition.

The system of letting horses swim to shore has been sometimes advanced as being simple and expeditious. The experience of the Americans at Daiquiri suggests that it may also prove extremely costly; moreover, it would appear to surpass the ingenuity of man to devise any plan by which, in case of re-embarkation becoming necessary, the unwilling steeds could be induced to swim out again, each animal to its appointed transport.

It may be not out of place to briefly allude at this point to the question of wireless telegraphy as applied to naval-military operations. The materials available for forming any judgment on the subject are very scanty, and are, of course, entirely derived from the present campaign. What little is at present known points to the conclusion that the invention may not infrequently prove itself to be a two-edged weapon, owing to the risk of despatches being intercepted by an opponent. It is said that Admiral Togo, in his earliest attack on the Russian fleet, learnt from an intercepted Russian despatch of the isolated position of the cruiser "Variag," and was thus enabled to hasten to her destruction. On the other hand, the Russians boast that they learnt at a critical moment of the position of Admiral Kamimura's squadron by tapping a Japanese wireless despatch; and several other similar miscarriages, attributable to the same agency, might be quoted. Enough is known to indicate very clearly that the possibilities and dangers of such an uncertain agent merit the closest investigation during peace practice.

To briefly recapitulate.

The points in connection with embarkations and disembarkations to which special attention should be directed during conjoint practice in time of peace may be summed up as follows:—

1. The thorough and systematic training of all ranks.
2. The efficiency and suitability of the *matériel* for the object in view, tested by every conceivable means and under varying conditions.
3. Experiments with new inventions and appliances, with a view to ascertaining how far any of them might be advantageously employed on active service.

Experience teaches that forces destined to take part in maritime descents should be accustomed by their training to overcoming the most novel and vexatious difficulties, and, as an example of this, it may be noted that owing to excessive shallowness the covering party for the disembarkation of the Second Japanese Army at Pi-tse-wo was obliged on the 5th May last to wade, after quitting the boats,

for more than three-quarters of a mile before reaching *terra-firma*, through a horrible compound of mud and water! If conjoint practices were installed as a regular feature in the training of our sea and land forces, it would be practicable, by taking advantage of the physical peculiarities of various parts of the coast of the United Kingdom, to gradually gain experience in disembarkation and re-embarkation under all those varying and difficult conditions which might conceivably be expected to confront our future over-sea expeditions; and it would become practicable to adapt the training of the *personnel* and the nature of the *matériel* to overcoming such difficulties.

The sordid consideration of expense is always a prominent feature in the arrangements for peace manœuvres, whether naval or military, and must not therefore be ignored; and consequently, as a side issue, it may be well to glance at the feasibility of embarking troops for combined practice in men-of-war. The system of crowding war-vessels with soldiers and their equipment is very strongly objected to in many quarters; it was productive of great suffering to the French troops during the expedition to the Crimea, and generally speaking it has been little resorted to in British expeditions. Apart from questions of convenience, moreover, it must be remembered that many modern men-of-war are ill-adapted for acting as transports. On the other hand, it is certain that the period during which troops would require to be on board during manœuvres would be limited to a very few days only, and the less money spent on hiring transports the larger would be the funds available for other purposes. The general opinion appears to be that although the practice of utilising men-of-war for the conveyance of soldiers is objectionable in many respects, yet it might be resorted to in the case of peace manœuvres for infantry only, and in connection with those ships of the Royal Navy which, from their deck space and other peculiarities, might be found suitable for the purpose.

The institution of combined manœuvres might have an important bearing on international relations. As matters now stand, the embarkation of a single British division would cause intense excitement throughout the world. Twice at least within the last half-century great eventual advantage might have been reaped by so doing, but the step was barred by fear of precipitating a contest. If conjoint work were regularly practised, troops might be embarked at almost any time without attracting much attention.

Command.

It has been the general custom in the over-sea expeditions which have been sent forth by this country to place the Navy and Army each under its own Commander-in-Chief. In certain cases difficulty has from time to time arisen, but generally speaking the arrangement has worked fairly well, and would in all probability be always adhered to in peace manœuvres. A description of the footing with regard to each other which would be held by the respective commanders naturally leads to the consideration of the relations which should exist between the officers of the two Services generally during conjoint operations.

The subject is an extremely delicate one, but it should not be evaded, and it is hoped that no umbrage may be taken at the observations which follow.

A feeling appears to exist that during joint operations, friction and misunderstandings might arise. Any idea of this kind has its root in the prejudices of the old narrow-minded days of the eighteenth century, when, in the words of Smollett, used in describing in "Roderick Random" his experiences during the expedition to Carthagena, "the general was too much of a gentleman to ask a favour from his fellow chief, who, on the other hand, would not derogate so much from his own dignity as to offer assistance unasked, so that between the pride of one and the insolence of another the enterprise miscarried."

Rumours of differences of this kind, with lamentable consequences, between Russian naval and military officers have, it is true, from time to time leaked out during the present campaign; but it is certain that no such sentiments could find a place between the highly educated gentlemen who, in the twentieth century, officer the naval and military forces of the British Empire.

In the intimacies of social and club life the two classes are at all times to be found in the closest and most friendly association, and there is no imaginable reason why their official relations should not be on an equally happy and cordial footing. If any prejudice still lingers in the minds of individuals here and there as a legacy from the old-world ignorance of a by-gone age, it would assuredly be swiftly swept away by the frequent intercourse which would be rendered necessary on the institution of conjoint manœuvres recurring at regular intervals. If thus accustomed to work side by side, naval and military officers would quickly become imbued with the sentiment expressed in the concluding words of the already quoted speech of His Royal Highness, the present Inspector-General of the Army:—

"We look upon the two Services as one Service. It matters not whether we wear a blue coat or a red coat; we enter both Services in the interest of the same Crown and country. We exist for their protection, and our objects are identical, though we go about them in different ways."

Conjoint Practice on the Coast of Essex in September, 1904.

Considerations of time have rendered it necessary for me to write up to this point without having the advantage of the light which was certain to be thrown on the whole subject by the conjoint practice on the coast of Essex. These operations—practically unique in the history of our peace manœuvres—have now drawn to a close. Being so unfortunate as not to be able to witness what must be regarded as one of the most interesting experiments, from a naval and military point of view, which has ever been attempted, I have been compelled to rely, to a great extent, on the admirable letters from military correspondents which have appeared in the daily newspapers for information as to details.

Taking into consideration the novel nature of the work to be carried through, the foresight and ability displayed, and the success which has on the whole rewarded the efforts of all concerned, it would appear that criticism should be indulged in with a sparing hand.

As might have been anticipated, the embarkation of Lieut.-General Sir John French's force at Southampton was carried through with practically faultless precision, and gave ample proof of the great

experience which has been reaped from the war in South Africa. The explanatory statement issued by the War Office expressly provided that the command of the sea had been definitely and completely secured, and hence that there would be no naval opposition to the movements of transports or to the landing of the force; hence the interest in the proceedings from a naval point of view were considerably, although no doubt unavoidably, reduced. It is permissible to hope that in any future operations of the kind such a restriction may be withdrawn, for combined practice can scarcely be expected to grow into a regular institution unless each Service can be exercised in the course of the operations in its particular work, as distinct from the actual conveyance of troops to and from an open shore. The military manœuvres on land also were wanting in realism, owing, it is said, to lack of funds; hence the whole interest of the practice centred on the disembarkation and re-embarkation, and on those operations alone.

The landing of troops in the neighbourhood of Clacton was executed under exceptionally favourable atmospheric conditions, and it is generally agreed that scarcely greater difficulties were experienced from the break of the waves than would have been found on the Serpentine. It was therefore possible to run the horse and gun-flats against the beach and to ride the horses and drag the guns ashore without, to use the words of Mr. Prevost Battersby, in the *Morning Post*, "wetting a hoof or a wheel-rim."

About a dozen landing-stages were constructed by the blue-jackets of Rear-Admiral Sir Wilmot Fawkes' escorting cruisers, and generally speaking these were devoted to the landing of infantry and stores. In spite of peculiarly favourable conditions, both as to weather and as to the physical characteristics of the coast, the disembarkation of 12,000 men and 3,000 horses was only carried through in about 36 hours, all concerned working their hardest to produce this result. Moreover, it must be remembered that large quantities of supplies were conveyed by railway for the invading army to the theatre of operations, and hence the stores to be landed were limited in bulk in comparison with the mass which would necessarily have accompanied a force if it had been engaged in actual warfare.[1] Nothing could have exceeded the zeal and good temper with which the officers and men of both Services tackled what is undoubtedly a most difficult undertaking; but in this peace practice, as in the examples in actual warfare already quoted, the splendid exertions of the *personnel* were greatly retarded by the imperfect *matériel* at their disposal; and the high authority of Field-Marshal Sir Evelyn Wood has been quoted in support of the statement that many of the appliances used were almost as primitive as those employed half a century ago at the landing in the Crimea. In fact, with the exception of the useful work in bearing despatches performed by the motor-boat "Napier Minor," and the occasional use of wireless telegraphy, it may be said that modern scientific invention played but a very small part in the combined operations on the Essex shores. It is to be noted that it was found in some cases, contrary to general anticipation, that the

[1] This renders impossible any comparison as to speed between the Japanese landing at Chemulpo and that of our own troops at Clacton. The former were encumbered with 100,000 tons of baggage; the latter can scarcely have been burdened with a tenth of that amount.

search-lights of war-vessels were of little value in expediting disembarkation at night.

The seamen of the escorting cruisers rendered hearty and invaluable assistance in enabling the troops to reach the shore, and it has been hinted that the crews of certain men-of-war were drawn upon to such an extent that, if a sudden emergency had arisen, sufficient men would not have been on board to manœuvre the ships or man their guns. If such a state of affairs really at any time existed, it surely affords a most potent argument in favour of the introduction of some system such as that previously suggested for training soldiers in boat work, and by thus giving them some self-reliance when engaged in maritime descents, to leave the blue-jackets of the escorting war-vessels free to perform their regular duties on board ship. It is very satisfactory, however, to note that when the task of re-embarking had to be undertaken, the troops had in many cases profited greatly by the experience gained during the disembarkation, the result being some remarkably quick work in loading floats with horses and guns, which was carried out without assistance by men of the Royal Artillery competing against blue-jackets. This fact would seem to justify the contention that if soldiers were frequently practised in such work, the speed of disembarkations and re-embarkations might be greatly increased. Notwithstanding the limited quantity of stores, the energy expended by both sailors and soldiers, and the fact that the defending force did not seriously molest the re-embarkation, that operation was only completed in about two and a half days.

It is most difficult when relying on newspaper reports alone to express any reliable opinion with reference to operations of such a complicated character as those under review. The general impression to be gathered from the materials now available is that the manœuvres of 1904 mark an extraordinary stride on the path of combined practice; but at the same time it is most important that they should be regarded by the nation at large as a first step only, and it is earnestly to be hoped that the last word has by no means been uttered with regard to the importance of exercising, in time of peace, the naval and military forces of the Crown in the complicated problems of combined strategy and tactics.

The Services have demonstrated that they can work together in perfect harmony, and it remains for the general public to provide the funds necessary to enable them to advance on the path of joint progress. I cannot indicate the vital importance of such progress better than by giving the following quotation from a very able article in the *Morning Post*:—"It obviously remains for us to achieve such interaction between our few men and our many ships, that shall extend the immense potentiality of the one by the mobility of the other, thus making our Navy dreaded the more because it can bring an Army with it, and our Army respected because it can be hurled by the Navy's hands."

CONCLUSION.

Before closing this Essay, it will be desirable to consider generally, the events which have recently been unfolded in the Far East.

The naval-military operations of the Japanese forces during the

first half of the present year (1904) may be said to have established a record in such work, whether the standard applied relates to the numbers dealt with, the frequency of the embarkations and disembarkations, or the success which has attended the efforts made.

When a true and complete history of the war sees light in the fulness of time, it is scarcely an exaggeration to suggest that a perusal of it will alone be sufficient to enable the student of the future to master the theory of combined operations.

He who is fated to write at the moment, however, is confronted by the double difficulty that whilst he cannot, on the one hand, altogether ignore the struggle, on the other, he must, as already hinted, be necessarily skating on the thinnest ice if he should attempt to dogmatise or draw any lessons therefrom, with the unreliable data at command.

It is possible that the prosperity which has attended the combined efforts of the fleets and armies of the Mikado may blind the general public in this country to the careful preparation and sustained effort to which the remarkable success achieved has been entirely due; and may lead to the impression that operations which have been carried through with such apparent ease cannot be difficult in themselves, that time and money need not, therefore, be devoted to the peace rehearsal of such feats by our own Forces, and that in the future, as in the past, we should fall back, in such matters, on the antiquated, dangerous and costly policy of trusting to luck, when an emergency arises. Now there is no point which has made itself more clearly apparent than this, that up to the outbreak of hostilities, the diplomacy of Russia had been very much in advance of her warlike preparations; whilst as regards Japan, the state of affairs was exactly opposite, her rulers having been wise enough to let the work of preparation keep pace with the words of diplomacy. The whole campaign, therefore, has been a splendid example of the triumph in combined naval and military operations of method and peace organisation over illimitable resources.

But the lesson can be given in an even more concrete form than is afforded by the events of the present war standing by itself. If any man is inclined to doubt the correctness of the inferences drawn, let him carefully study the details of the Japanese disembarkation at Chemulpo in February, 1904, and compare its features, one by one, with the similar operation which was carried through by the Forces of the United States at Daiquiri in June, 1898. The former episode was purposely selected for quotation in the first part of this Essay, because it is an example of a descent executed with admirable precision, within a few days of the outbreak of hostilities, and consequently, too soon for it to have been possible for any lessons learnt during the existing war to have been applied. The disembarkation at Chemulpo, therefore, was a product of peace preparation, and of peace preparation alone.

To fully realise the tremendous influence which national foresight may exercise as compared with numbers and wealth, it should be borne in mind that the forces employed at Daiquiri were engaged in executing the mandate of a great State, whose resources exceed those of Japan by many millions, alike in population and in money. Yet, as we have seen, whilst the most essential appliances, such as horse-boats, were denied to the brave men of the United States' Forces at

Daiquiri, at Chemulpo, in spite of the comparative slenderness of the national resources, every detail, down to sign-boards for the Japanese troop-boats and landing-stages, and rice mats for the horses' feet, were at hand and constantly available. The disposition of the British nation, like that of the Americans before 1898, and of the Russians up to 1904, has ever erred on the side of procrastination, where expenditure and preparation for national safety are concerned, and as a result in almost every campaign, from the expedition to Carthagena in 1741, down to the present day, British sailors and soldiers, when called upon to uphold the national honour, have been placed more or less at a disadvantage, owing to the lack of previous peace preparation. Luck, sheer fighting power, the like unpreparedness of our opponents, have hitherto averted a catastrophe; but as years roll by, the appliances for war become more complicated, and success is gradually tending to depend rather on scientific and systematic training than on personal courage. The immunity from disaster, therefore, which has hitherto attended our arms, may, and probably will, fail us at a critical moment, if the object lesson of Japanese foresight and Russian supineness be not taken to heart.

The British nation is, above all things, a great maritime Power, from the circumstances of the insular position of the United Kingdom; it is necessarily a great military Power from the fact that India and other dependencies are held by the sword.

These exceptional conditions of national existence render a solution of the difficulties which attend a rapid debarkation of an army having a due proportion of cavalry, land transport, and artillery more important to the inhabitants of this country than to those of any of the other great European nations. To them, the best method of conducting such undertakings must, on the whole, be of somewhat secondary importance and of academic, rather than of practical, value. To us, like the Japanese, the solution of such problems may prove, at any moment, to be a matter of national life and death.

THE UNITED STATES ARMY.

By Colonel Sir HOWARD VINCENT,[1]

K.C.M.G., C.B., A.D.C., V.D., M.P., Queen's Westminster Volunteers.

Thursday, 9th February, 1905.

Major-General G. UPTON PRIOR in the Chair.

1. THE 45 United States of the North American Republic have, since their Federation under the Star-Spangled Banner at the close of the Civil War forty years ago, made such miraculous progress in all the arts of peace, in trade and commerce, in education and science, in charity and philanthropy, in population and prosperity, in luxury and fashion, that people not infrequently assume that preparation for war has formed no part of national development. True it is that with no aggressive neighbours, with land frontiers secure against attack, with the sea-boards separated on east and west by three to five thousand miles of stormy ocean from the nearest maritime Powers, with only two comparatively small and recently-acquired Colonial possessions, the need for military force is less evident than in the case of any other country in the world.

2. *Compulsory Military Service.*—But so thoughtfully is every possible national eventuality provided for by the American Democracy, that on their business-like and money-making continent, over three million square miles in extent, we find:—

Obligatory Military Service has been recognised as inevitable in the event of invasion, by the Senate and House of Representatives in

[1] Previous addresses to the Royal United Service Institution by the same author:—

1. "The Russian Army," 17th May, 1872.
2. "The Austrian Army," 2nd May, 1873.
3. "The Armed Strength of Europe," 18th June, 1875.
4. "The Turkish Forces and the Military Aspects of the Eastern Question," 14th February, 1876.
5. "The Military Geography of Turkey," 20th January, 1877.
6. "The Requirements of the Volunteer Force," 21st, 22nd, and 23rd January, 1878.
7. "Personal Observations of the Forces in South Africa," 9th April, 1900.
8. "The Situation in South Africa," 29th January, 1902.
9. "The Russian Army in 1903."

Also papers on the German Army, the French Army, the Swiss Army, the Indian Army, and Volunteers in India.

Congress assembled. The latest consolidating statute on the subject was approved so recently as the 21st January, 1903.

Section 1 runs:—

"That the militia shall consist of every able-bodied male citizen of the respective States, Territories, and the District of Columbia, and every able-bodied male of foreign birth who has declared his intention to become a citizen, who is more than 18 and less than 45 years of age, and shall be divided into two classes:

a. The organised militia, to be known as the National Guard of the State, Territory, or District of Columbia, or by such other designation as may be given them by the laws of the respective States or territories.

b. The Reserve Militia.

3. *Total of Land Forces.*—The latest available statistics show that under this Act, only needing the signature of the President to put it into force without further authorisation from Congress, the United States could call into military service, according to the census of 1900, 16,360,363 men, of whom 13,132,280 were American born and 3,228,083 foreign born, and 1,864,968 coloured. To these figures, 5 per cent. must now be added to bring them up to date; that is, the numbers available for land service exceed 17,000,000, or 2,000,000 in excess of the estimated aggregate of the mobilised Armies of Europe. The only persons free of militia liability, should the need arise, are judicial and executive officers of the Government, members of each House of Congress, postal and customs employés, artificers in the arsenals, pilots, mariners, persons exempted by the laws of the respective States and territories, and those members of any well recognised religious sect or organisation, whose religious convictions are against war in any form, and whose creed forbids its members to participate therein.

4. *How Called into Action.*—"Whenever the United States may be invaded or are in danger of invasion from any foreign nation, or of rebellion against the authority of the Government of the United States, or the President is unable with the other forces at his command to execute the laws of the Union in any part thereof, it is lawful for the President to call forth, for a period not exceeding nine months, such number of the militia of the State, or of the States or territories, as he may deem necessary to repel such invasion, suppress such rebellion, or to enable him to execute such laws, and any officer or enlisted man of the militia who refuses or neglects to present himself upon being called forth is subject to trial and punishment by court-martial."

5. *Authority of President.*—Thus runs the law, and it will be observed that no Emperor or Sovereign, not even excepting the Emperor, Lord, and Autocrat of All The Russias, with his five millions of armed men, is invested with greater military power, uncontrolled and unquestioned, than the President of the United States for the time being.

Nor is the observation here out of place that the power placed by the American Democracy in the sole hands of the President of the Republic is as great in civil as in military affairs. Every appointment under the Government is in his absolute gift, subject only, if the Senate *is in session*, to disapproval by a three-fourths majority. The Ministers and Secretaries of State are officers of the President, nomi-

nated by him, retained in office only as long as he pleases, having no authority except as his representative, and not sitting either in the Senate or House of Representatives, and having no direct responsibility to Congress. It is in a great measure the very inverse of our constitutional system, under which Parliament is supreme, and each Minister is responsible to Parliament for every act, and liable, day by day, to be called upon to defend it in the House of Parliament in which he sits.

6. *The Regular Army of the United States.*—Before considering the details of the organisation of the militia or National Guard and the volunteer forces of the United States, it will be desirable to examine the organisation and composition of the Regular Army. Many people on this side of the Atlantic believe that the United States have no Regular Army; but as I shall in the course of my observations hope to show, not only have the United States a Regular Army, but that, man for man, it is perhaps the best physically, the most intelligent, and the most highly trained — both as to officers and men — of any Army. To such an extent is this the case that I shall not be beyond the mark in saying that one of the voluntarily-enlisted soldiers of the United States is worth two or even more of the conscripts of Continental Europe. The comparison between the American and the British soldier I shall leave to the calculation or imagination of the members of the R.U.S.I., after I have brought before them the premises. Happily, with the fraternal feeling now prevailing between all branches of the Anglo-Saxon race, with our interests—domestic, commercial, financial, intellectual, philanthropic—being more closely woven together day by day, "it goes without saying"—to repeat the Lansdowne-Choate phrase—"that the British soldier or sailor can only look upon the American soldier or sailor as a comrade and a brother, with whom it is and will be our privilege to stand shoulder to shoulder throughout the world for the defence of humanity, the furtherance of peace, and the safety of the blue blood which flows in the veins of both peoples."

7. *Statutory Strength.*—The Regular Army of the United States exists under the authority of various Acts of Congress, the latest of which was passed on the 2nd February, 1901. It is regarded "as the basis or skeleton for a much larger army in time of war." The numerical strength is at the present time about 3,700 officers and 67,000 men, of whom upwards of one-sixth have had a continuous service of 5 years and more; but the Statute provides that the President can increase the strength to 100,000 men. The composition of the Regular Army is as follows:—

15 regiments of cavalry, 750 officers, 12,240 enlisted men (4 troops in a squadron, and 3 squadrons in a regiment).
A troop consists of 3 officers and, in peace, 65 men; in war, 100 men.
The 9th and 10th Cavalry are coloured regiments with white officers.
30 regiments of infantry, 1,500 officers, 24,480 enlisted men. (4 companies in a battalion, 3 battalions to a regiment.)
A company consists of 3 officers and, in peace, 65 men; in war, 150 men.
The 24th and 25th Infantry are coloured regiments with white officers.

Field Artillery.—30 batteries, organised in battalions (*i.e.*, brigades) of 2 or more batteries:—

2 Horse batteries 22 Light, *i.e.*, field batteries ..	Each to be armed with four 3·0-inch Q.F guns, but now armed with six 3·2-inch B.L. guns.
4 Mountain batteries ..	2·95-inch Vickers-Maxim Q.F. gun (4 gun batteries).
2 Siege batteries	Four 5-inch B.L. guns. Four 7-inch B.L. howitzers.

Total.. 30 batteries.

A light or mountain battery consists of, in peace, 3 officers and 120 men; in war, 3 officers and 173 men.

A horse battery consists of, in peace, 3 officers and 130 men; in war, 3 officers and 173 men.

A siege battery consists of, in peace, 3 officers and 160 men; in war, 3 officers and 200 men.

Coast Artillery.—126 companies of 109 men each, total, 13,734 men (with
105 12-inch guns,
132 10-inch guns,
96 8-inch guns,
576 Q.F. guns,
and 376 12-inch mortars).

NOTE.—There are 651 officers and 17,742 men in the Artillery Corps, *i.e.*, field and coast artillery combined.

Engineers.—188 officers and 1,282 enlisted men.

The latter are organised in 3 battalions of 4 companies.

51 officers are employed under the Federal Government in civil engineering work connected with Rivers and Harbours Improvements, and all but 40 of the remainder are extra-regimentally employed.

A company consists of, in peace, 3 officers and 104 men; and in war 3 officers and 168 men.

Signal Corps.—46 officers and 1,212 enlisted men, organised in 12 companies, similar to the Engineers, but of smaller strength, a number of the officers and men being employed on detached duty.

There are also 100 electrician sergeants, 42 veterinarians, and 57 chaplains, and recruiting parties and recruits, say, 500.

Then there are the Staff Departments, viz.:—

Military Secretary's Department (late Adjutant-General's)	28 officers.
Subsistence Department	44 officers, 200[1] men.
Quartermaster's Department (which includes barrack building and maintenance in its duties) ...	96 officers, 250[1] men.
Inspector-General's Department ...	17 officers.
Ordnance Department	71 officers, 700[1] men.
Pay Department	53 officers.
Judge Advocate-General's Department	12 officers.

[1] Not including civilian clerks.

Medical Department ... ... 322 officers
(but shortly to be largely increased) and Hospital Corps, 3,167 men.
And a *Record and Pension Bureau.*

In addition there are attached to the Regular Army 21 officers and 549 men of the Porto Rico (Native) Regiment (2 battalions) and 100 officers and 4,900 men (organised in 50 companies) of the Philippine (Native) Scouts, the officers of both these organisations being nearly all Americans.

And finally there are 75 Native (Indian) Scouts for service in the Western States.

The establishment of the enlisted men of the last three corps counts in the 100,000 enlisted men, above which the Regular Army cannot be increased by law; but, individually, the Philippine Scouts may be increased to 12,000, the Porto Rico Regiment to 1,212, and the Indian Scouts to 1,000, if the President wishes to do so, provided the 100,000 maximum is not exceeded.

The increase from minimum to maximum strength has to be done by recruiting, for there are no Reserves.[1]

Of the whole Regular Army 12,000 are in the Philippines, 400 in China, Porto Rico, and the Hawaïian Islands, and 1,000 in Alaska, and the remainder in the United States. They are organised in 4 Continental Divisions (Atlantic, Northern, South-Western, and Pacific, and 1 Philippine Division), each under a major-general, and with departments under a brigadier.

The advance in strength can be very simply and quietly effected, as the Statute provides that "the President in his discretion may increase" the number of corporals in any troop of cavalry from 6 to 8, and the number of privates from 43 to 76, and the number of sergeants in any company of infantry from 4 to 6, of corporals from

[1] It is interesting here to take note that according to that admirable work, "The Naval Annual," edited by the Hon. Thomas Brassey, the naval expenditure of the United States exceeds £22,000,000 (or as much as Germany and Russia together), and that she has now afloat or nearing completion for sea 24 first-class battle-ships, 11 third-class battle-ships, 34 armoured cruisers, 16 destroyers, 35 torpedo-boats, 9 submarines. Considerable sums are also being expended in fortifications and sea-coast defences, torpedoes for harbour defence, gun and mortar batteries, coast artillery, fire control installations, arsenals, and floating mine approaches. There are also 278 officers and 7,532 men in the United States Marine Corps, which is now supplying a battalion for land service in Panama; 200 for Santo Domingo; and small garrisons for all the naval stations. Its increase is in contemplation.

Under date 23rd November, 1904, the Secretary of the Navy (Hon. Paul Morton) reported to the President:—"Never before were so many war-ships launched by this or any other nation in one year. Vessel for vessel, and type for type, I believe our new ships will compare favourably with those of any Navy afloat. . . . Last year the Navy cost little over a dollar (4s.) per capita. It costs little compared to what war would cost, and it is the best insurance we have against war. We want such a Navy in size, style and 'sand,' that no other Navy will ever desire an engagement with us. It is our greatest exhibit in favour of peace. . . . It is much better for us to be at all times so well prepared for war, that war will never come."

6 to 10, and of privates from 48 to 127, and in any company of engineers from 64 to 128.

The expenditures for 1905, on account of the Military Establishment, are estimated by the Hon. T. M. Shaw, Secretary of the Treasury, at $122,000,000 (say £24,000,000), with a like amount for the Naval Establishment, making for the two together £48,000,000. Some portion of this sum relates, however, to outstanding debts on the Spanish War.

8. *Command-in-Chief.*—The command of the Army of the United States rests with the Constitutional Commander-in-Chief—the President. This command is exercised through the Secretary of War and the Chief of the Staff. The Regulations say:—

"The Secretary of War is bound to act in conformity with the President's instructions. His acts are the President's acts, and his directions and orders are the President's directions and orders. But the President may call upon the Chief of the Staff to give information or advice, or receive instructions directly from himself. As this necessitates a relationship of absolute confidence and personal accord and sympathy between the Chief of the Staff and the President, the office ceases, unless sooner terminated, on the day following the expiration of the term of the President who made the appointment; and if at any time the Chief of the Staff considers that he can no longer sustain towards the President and Secretary of War these relations, it is his duty to apply to be relieved. The President may appoint over the whole Army a single commander, subordinate to himself; but in ordinary conditions this will not be done in time of peace."

9. *General Staff.*—The Act of Congress "to increase the efficiency of the Army," approved on the 14th February, 1903, abolished the office of "General Commanding the Army," and provided for a Military Chief of the Staff to the President, who, acting under the directions of the President, or of the Secretary of War representing him, should have supervision not only of all troops of the line, but also of the Special Staff and Supply Departments, reporting directly to the Secretary of War. The General Staff Corps consists of some 50 officers, whose duties are "to prepare plans for the national defence and for the mobilisation of the military forces in time of war; to investigate and report upon all questions affecting the efficiency of the Army and its state of preparation for military operations, and to perform such other military duties as may be from time to time prescribed by the President." All officers detailed for the General Staff serve for 4 years therein, unless sooner relieved; and "*no officer is eligible*," under the Statute, "to a further detail in the General Staff Corps until he shall have served 2 years with the branch of the Army in which commissioned, except in case of emergency or in time of war." Vacancies on the General Staff are filled by a Board composed of the Chief of the Staff and the three senior members. There are also 894 general and other officers, and 3,200 men employed on Staff organisations.

10. *Joint Army and Navy Board.*—To ensure harmonious action between the Army and the Navy, a Joint Army and Navy Board was constituted on the 17th July, 1903, consisting of 4 officers of the Army and 4 officers of the Navy, to hold stated sessions and such extraordinary sessions as appear advisable for the purpose of conferring upon, discussing, and reaching common conclusions regarding all

matters calling for the co-operation of the two Services. Any matter may be referred by either department to the Board. The senior officer presides; the junior acts as secretary. All the confidential reports are made in duplicate, and a copy sent to the Secretary of War and Secretary of the Navy. It is pointed out "that if the two Services are ever to be called upon to co-operate, the time to determine what each shall do is before the exigency arises," and it is claimed that "much greater efficiency at much less cost can be obtained by mutual co-operation and mutual understanding than by separate Services working independently."

11. *Recruiting.*—The term of enlistment is for three years, subject to re-engagement for further periods of three years. Recruiting is entirely voluntary. No man is accepted under 21 or over 35 years of age, or who is not a citizen of the United States, or has not made legal declaration of his intention to become a citizen, or who cannot speak, read, and write the English language, or who cannot furnish satisfactory evidence as to age and character.

These conditions, which are invariable, debar from the recruiting area a very large proportion of the male inhabitants of the United States. The tide of alien immigration—very strictly regulated and controlled as it is by an expert and well-manned service, guarding every avenue of approach, and only allowing the most eligible candidates, from a physical, mental, and pecuniary point of view, to have the privilege of entry—may be set down at 800,000 persons a year, of whom three-fourths would be males of an average age of from 25 to 30. Few of these, however, would be available for the United States Regular Army. They might obtain letters of naturalisation under the five years' limit, but, save in exceptional cases, they would not possess sufficient knowledge of the English language. The sons of the immigrant would, however, be eligible.

12. *Numbers required.*—The United States Regular Army requires from 25,000 to 30,000 recruits a year to fill the one-third of the enlisted men becoming clear of their engagement, and to supply the waste of casualties (1,582 or 23·39 per thousand last year), due to death (9·30 per thousand), sickness, and dismissals.

The British Army requires 47,000 recruits per annum, and its recruiting ground lies among about 5 millions of males between 18 and 30 years of age in the United Kingdom, and among 1,500,000 of the white population of the Empire beyond the sea—a total of 6,500,000 persons.

The recruiting area in the United States, deducting the limitations above enumerated and the negro population, is calculated by the Director of the Census at about 9,250,000 persons. It is surprising, all things considered, that the competition to enter the Army is so keen.

There are no recruiting sergeants hanging about the street corners with dazzling uniforms, specious promises, or proffered drink.

Advertisements are inserted under contracts in the leading papers, stating for what branches of the Service recruits are wanted, and giving the address of the recruiting office, where full particulars as to pay and prospects and all other information can be obtained personally or by letter. The office is usually situated in a good locality quite easy of approach, to which any man can go without the slightest difficulty, obtaining what he wants at once in clearly

expressed language and figures, without the slightest pressure being put upon him to enlist or give any particulars concerning himself.

It will be gathered that I have not dwelt upon these details without some object in view. It will suggest itself to all.

13. *Pay of the British Army.* — There are so many different rates of pay in our Service, so many different allowances, dependent upon so many conditions, and so many stoppages, that it is difficult to answer with certainty the one question of the prospective recruit if he has the slightest intelligence or ambition, what will be the pay and what the prospects if he joins the Army. I have been endeavouring since October to obtain the information from my gallant friend the Director of Recruiting; but as yet without success. From the excellent little pamphlet I got from a post office—"The Advantages of the Army"—it appears that a British infantry private of two years' service can earn 1s. 11d. a day: pay 1s., service pay 6d., allowances 5d. The latter, however, can hardly be considered as pay, for from it 3d. or 3½d. is deducted for groceries, and he has to keep his uniform and boots in repair, to supply himself with underclothing, and to pay for his washing and hair-cutting.

14. *Pay of the American Army.*—The Secretary of War (Hon. Wm. H. Taft) claims that "the troops of the United States are the best fed, best clothed, and best sheltered troops in the world." How does the pay of the American soldier compare, then, with that of the British soldier?

The pay of the private in the United States engineers, artillery, cavalry, infantry, or signal corps in the first and second years of service is 13 dollars a month, that is, in round figures, £2 14s. 6d., or 43 cents (1s. 9d.) a day without deductions. In the third year of service and each subsequent year up to 5 years, it increases about 3⅓ cents a day, or 1½d. per diem. The industrial rate of wages in the United States is, however, far higher than in the United Kingdom. All the British Trades Union secretaries accompanying the Mosely Commission in 1902 put the American wages at 100 per cent. higher than in England, and admitting that the higher standard of artisan life brought up its expenses to 50 per cent. more than in England, the receipts of the working man were 50 per cent. higher. Even if the American Regular belonged to the class of unskilled workers, rather than to skilled labour, the proportionate wages compared to those in Great Britain would be as five to three.

This undoubted fact largely neutralises the additional daily pay—if there is any addition at all—of the American soldier. At the same time I am bound to say that the United States Secretary of War in his last report only estimates the pay of the British private at 7 dollars 14 cents a month, or 28s. 6d.

Other factors operate to the advantage of the British soldier. He is less hard-worked. He has an opportunity of seeing more of the world and of life. His quarters at home or abroad are usually in pleasant garrison towns. He has a great chance of active service and of distinguishing himself, for all through the last century the British Army was fighting somewhere or other every two years—services for which these fifty-two medals upon the table were allotted.

The American soldier, on the other hand, has no opportunity of seeing the world, except in the Philippines, and only an infinitesimal chance of the excitement of war. Indeed, only once in over 90 years

has the American Army had opportunity of measuring itself against any civilised foreign troops, and in that instance the odds were from the first immeasurably in its favour.

15. *Allowances or Increase of Pay.*—Do we find, then, that in allowances or increase of pay the American Regulars have a great advantage over ours? It is doubtful.

We give the British soldier his uniform clothing.

The American system as regards clothing is thus described by Colonel Alfred Reynolds, of the Headquarter Staff at Washington, in his admirable little official pamphlet: "The Life of an Enlisted Soldier in the United States Army":—

> "Within a few days after enlistment the recruit will be furnished with part of his uniform, that is, with a cap, blouse, trousers, and probably an overcoat and some underclothing. Soon after he arrives at the rendezvous, if he has no overcoat one will be issued to him, together with a blanket, shoes, and such underwear and stockings as he may need. He will also draw a canvas coat and trousers for use when detailed for work which might soil or wear out his other clothing.
>
> "When the recruit joins his regiment he will be fitted with his full-dress uniform. He will likewise draw his field kit, consisting of a knife, fork, and spoon, a canteen and a tin cup, a haversack, a plate, and a bag for soiled clothes when in quarters. In addition, he will be supplied with rifle, bayonet, intrenching tool, and necessary belts and boxes for carrying his ammunition. It must be borne in mind that although these things are furnished free of cost, he is required to take all possible care of them. If he sells, or through neglect loses them, he will be punished by court-martial. The clothing furnished is of good quality, and so ample that with care a man may not need to draw it all, and so at the end of enlistment receive the value of what is undrawn in money. If, however, he is careless and ill-uses his clothing so that to keep up a neat appearance he is obliged to overdraw his allowance, that will be deducted from whatever moneys are due to him at the final statement."

16. *Nest-Egg on Discharge.*—It is officially calculated that the careful man may save 50 dollars, or say £10, from the clothing allowance in his three years' enlistment (although I cannot understand how it can be so much, as the individual evidently takes great pride in his personal appearance, in accord with the general feeling of the country), and that supposing he only spends half his pay on amusements, he should have, on leaving the Service, 288 dollars, or, say, £57 10s.

The money allowance for clothing is allotted by half-years, and the soldier is credited at the first settlement after enlistment with the allowance for the first half-year, and at each succeeding settlement with the allowance for the corresponding half-year. The clothing allowance for the infantry private in the three years of enlistment is $157 98 cents (say £31 12s., and about 22s. more for mounted

branches), and it is thus allocated:—

	£	s.
First half-year - - - -	15	0[1]
Second half-year - - - -	2	7
Second year - - - - -	7	17
Third year - - - - -	6	8
Total - - - -	31	12

The full-dress tunic, 2 pairs of dress and 3 white coats, and 3 pairs of white trousers have to last the three years; but 4 pairs of khaki service breeches and 3 pairs of woollen breeches are allowed, as also 3 pairs of canvas trousers and 4 khaki coats and 4 caps, 5 pairs of calf-skin boots, 2 pairs of marching boots, and 3 pairs of barrack shoes. The dress tunic costs 23s. for all arms, the trousers 10s. 9d., the overcoat £3, the shirts 7s. 9d., the marching boots 12s. 9d., the cotton khaki 10d. a yard.

17. *Increment of Pay by Service and Pension.*—The pay increases at the rate of a dollar (4s.) a month every year of service up to six years, when for the private it is 18 dollars (£3 12s.) per month, and in 30 years' service it is 23 dollars (£4 12s.) a month.

Then—that is after 30 years' continuous service—a soldier can retire upon two-thirds the pay he was last drawing, plus $9 50 cents per month (nearly £2) for subsistence allowance. This pensionable service is 9 years more than with us, and the only privilege below the 30 years' service is eligibility for admission to the Soldiers' Home at Washington after 20 years' service, to the support of which 12½ cents per month is deducted from the pay of every man in the Army.

18. *Additions to Pay.*—Besides the increases of pay by service, artificers or tradesmen can add materially to their pay, and short service makes a constant flow of promotion. A sergeant in the artillery, cavalry, or infantry receives 18 dollars a month, rising each year after the second year to 23 dollars (£4 12s.) in five years. A colour-sergeant begins with 25 dollars a month in the cavalry and infantry, and rises to 30 dollars. I repeat again that these rates bear a less advantageous comparison to current industrial rates than in the British Army.

The lowest industrial wage in the United States may be stated as 1 dollar 20 cents a day—close on 5s. In a factory the average weekly wages (men and boys) may be taken as 13 dollars (£2 15s.), while a man of the stamp of a non-commissioned officer, especially of engineers, artillery, or cavalry, would never earn less than 20 dollars, say £4 a week. Nor must it be forgotten that there are rarely any unemployed who wish to work or are capable of working. How different to the lamentable condition of things in Great Britain, where it is calculated that to-day over 600,000 are unemployed.

19. *Competition to enter Army.*—It appears for every vacancy in the United States Army there are four candidates, and that the minimum height of 5 feet 4 inches and 120 lbs. weight are far exceeded.

The returns which I have here for August, 1904—in full harvest, and when both in town and country employers were running after men, instead of men after work—show that at 203 principal and

[1] Inclusive of £1 for fitting to size.

auxiliary stations under 55 recruiting officers, 10,019 candidates presented themselves, and only 2,433 were accepted as recruits, 7,586 being rejected. Of the enlisted, 2,386 were white (1,563 for foot service and 823 for mounted service), and only 47 coloured (35 for infantry, 12 for cavalry).

At 148 military posts and stations and surrounding towns, 653 persons offered themselves for re-engagement on the expiration of first enlistment or as recruits. Of these 557 were accepted.

20. *Military Spirit in the United States.*—To what can one attribute this desire to enter the United States Army, despite the extraordinary pecuniary superiority of civil life? The only explanation I can suggest is the immense growth of the military spirit in the States. It has long been there, ever since the War of Independence. The Civil War gave it immense impetus, and every other man had a military designation. Martial titles are now on the decline; but the Spanish War rekindled militarism, and it is now observable from the elementary school to the Senate. The children of all classes are taught military exercises and marching, to sing national songs, and to do honour to the national flag. "Preparatory schools for young gentlemen" pride themselves on adding "Minor Tactics and Military Drill" to the usual curriculum.

Over 80 Army officers are lent to private schools and colleges as professors of military science and tactics. They graduated last year some 2,000 students, and in 77 institutions in 1903 there were in the military departments over 16,000 cadets trained in an organisation similar to that of the Regular Army, a large proportion going through practice marches and target practice. It will be readily gathered how valuable is this course in providing officers for volunteer corps. On the 24th August, 1903, the President announced that he would annually award a commission in the Regular Army to one honour graduate of the six educational establishments showing the best work upon inspection.

Nor is this all. Every excuse is seized to hang out flags, to fire guns, to march in military formation, to don uniform, and to erect equestrian and martial statues. Even that dullest of all civil functions, a political meeting, is often enlivened by the introduction of a military element. Instead of the notabilities for the platform entering a side door and groping up dark stairways, they sometimes meet their partisans in a central place and march to the hall, headed by the Star-Spangled Banner, and perhaps afterwards the champion is re-escorted home. It all adds fuel to the enthusiasm; it all promotes national feeling, and very rarely leads to disorder or reprisal. People are too well educated for horse-play, and there is no drunkenness.

The only danger is whither this militarism will lead? That, however, is the affair of the enemies of the United States—if she has any—not of her friends. But it is a matter of which her neighbours should take careful note.

21. *The Recruit's Career.*—It would be, perhaps, interesting to follow for a moment one of the 74 recruits accepted last August out of 401 candidates by Major Hickey, of the 11th Cavalry, the New York chief recruiting officer. He has a good official house in 3rd Avenue. The smart sergeant-major thought the candidate a likely man, and after obtaining satisfactory answers to the preliminary questions, and being satisfied that he was perfectly sober and without appearance of

alcoholic tendency, gave him a form upon which to make application. This entailed definite answers to over 50 most minute and personal questions. He had further to give the name of a reference, to whom a letter of inquiry was sent, followed by a personal visit by a responsible non-commissioned officer to verify the answer and to satisfy the recruiting officer as to the sufficiency of the reference. Meanwhile the applicant is lodged at the recruiting office, if there is a spare bed, and boarded under contract at a neighbouring restaurant. He is not under military discipline, but at 9 p.m. the door is locked. These days of expectation are of great value, for they are sure to disclose if the applicant is not likely to make a good soldier, and in such case he is promptly rejected. But all inquiries being satisfactory, he is subjected to a very close medical examination. That passed, there comes measurement on the Bertillon system. The results are sent to the Central Recruiting Office at Washington with the medical report, and on the third or fourth day will come the answer if the recruit may be definitely accepted, he not having been identified as attempting to enlist fraudulently or as having been convicted.

Then his pay begins. He goes to the district rendezvous, receives an instalment of uniform, and goes through the recruit course, lasting six months or less. That over, he is drafted to the regiment of his choice or in which there is a vacancy, and to whose strength he brings not a raw recruit but a trained soldier, and as will be observed, the regiment is practically kept strong enough, ready at all times to march, and independent of Reserves.

22. *Characters of Enlisted Men.*—It will be readily gathered that such a system produces a first-rate body of men. Intelligence and initiative are cultivated among them by all possible means. The pay is not doled out weekly and frittered away forthwith. It is drawn at a monthly or bi-monthly settlement, and the soldier is encouraged to leave it with the Government until he really has need of it, receiving 4 per cent. interest. There is but little crime or drunkenness. There is only a dry canteen, and at some stations it is by no means easy to get alcoholic drink, and at worst it is usually in the form of lager beer. The type of a good proportion of American Regulars is that of a member of a high-class Volunteer corps in this country—ambitious and apt, disciplined and diligent, intelligent and industrious, respectful and resourceful, sober and steady—the men, the late Adjutant-General told the Royal Commission on the War, were essential for His Majesty's Army in the present day of individuality—"the Volunteers," said he, "joining their Line battalions assimilated all that was good in our regimental system with extraordinary quickness, and contributed to it with their many fine qualities. They were intelligent and patriotic, and fell into disciplinary order at once."

There is little military swagger about American Regulars. They rarely even wear moustaches or any hair on the face, and look like sailors. Nor are they less handy. The greatest precision in drill is insisted upon. The ceremonial of "the evening parade" is a complicated "trooping of the colour," dating from Louis XIV., George III., or Napoleon the Great. Crowds flock to see it. There was no greater attraction to the multitude at the St. Louis Exhibition, where on the encampment regiment succeeded regiment, than the morning parade at 10 a.m., and the evening parade at retreat; and the manœuvre in

which the crowd always took the greatest interest was the frequently practised formation for street fighting against a mob.

23. *Officers of the Regular Army.*—It is time now to consider how the United States Army is officered, and how the officer is educated and trained. There are three ways of winning a commission in the Regulars:—

a. Through the Military Academy at West Point.

b. By direct commission—examination succeeding nomination obtained by political influence.

c. Through the ranks.

24. *West Point.*—West Point furnishes rather over 50 per cent. of the officers. It is necessary to tarry for a time at this historical peninsula on the Hudson, belonging to the United States Government, not because of its having played a conspicuous part in the War of Independence, not by reason of the beauty of its situation, but because the Military Academy—which costs £126,000 a year—erected thereon is the centre point of American national pride, and gives the most complete and thorough military training of any similar institution.

I will trace the fortunes of a West Point cadet in some detail. They merit close study. Each sessional district and territory is entitled to have one cadet at the Academy. Two are also allowed from each State at large, and 40 from the United States at large. Having obtained a nomination for the preliminary examination from the President, through the Senator or Congressman of his district, and being between 17 and 22 years of age, and at least 5 feet 3 inches high, the aspirant appears on the 1st May before the Academic Board. If he succeeds in passing the physical and mental tests he enters the Military Academy on the following 12th June, for a four years' service. Not only is that course attended by biennial examinations, but each week, day, and lesson indoors or out has to contribute to its quota of qualification by marks. Many enter; but not more than 50 per cent., and sometimes less, succeed in graduating.

The cadet receives $500 a year as pay and 30 cents a day subsistence allowance—a total of $609 50 cents (say £122). An account is opened in his name with the Academy Treasurer. The cost of uniform, necessaries, and messing is debited against him, plus £1 12s. a month, to be applied when commissioned to the purchase of uniform and equipment. From time to time he agrees this account, but he is allowed no pocket money when actually at West Point. He can draw what is necessary if his conduct justifies a furlough, but on his return he has to hand his money to the Treasurer.

25. *Strictness of West Point Discipline.*—The following rules deserve a recital:—"No cadet shall apply for or receive money or any other supplies from his parents or from any person whomsoever without permission of the Superintendent. A most rigid observance of this regulation is urged upon all parents and guardians, as its violation would make distinctions between cadets, which it is the especial desire to avoid, the pay of a cadet being sufficient, with proper economy, for his support."

Rule 154.—"No cadet shall be allowed to keep a waiter (servant), horse, or dog."

Rule 132.—"No cadet shall drink any spirituous or intoxicating liquor, or bring or cause the same to be brought within the cadet limits, or have the same in his room, tent, or otherwise in his possession, upon pain of being dismissed the Service."

Rule 154. — "The use of tobacco in any form by cadets is prohibited."

Rule 143.—"Any cadet who shall strike, lay hands upon, disturb in his room or tent, or offer bodily harm to a new cadet or candidate, or order or invite a new cadet to sweep his room or tent, make his bed, bring water, clean his accoutrements, or perform any other menial office for him, or to assume any constrained position, or do anything incompatible with the position of a cadet and a gentleman shall be summarily dismissed from the Military Academy."

Rule 135.—"Any cadet who shall absent himself from his room or tent between tattoo and reveille for a longer period than half an hour at one time shall be dismissed the Service."

Rule 136.—"Any cadet who shall go beyond cadet limits"—they are very narrow—"without leave shall be dismissed or otherwise less severely punished."

Rules 137 and 138.—"Any cadet who shall knowingly make or cause to be made a false official statement of any kind, or who shall utter a falsehood by answering for another at any roll-call, or commit fraud by engaging any other person to answer for him, shall be dismissed the Service."

Rule 224.—"Cadets are prohibited from taking any newspaper or other periodical publication without special permission from the Superintendent."

Rule 210.—"No cadet shall have in his quarters or otherwise in his possession, except in his trunk in the trunk room, any article of dress other than the prescribed uniform."

Rule 216.—"The hair shall be worn short; whiskers or moustache shall not be worn."

26. *Punishment of Cadets.*—The strictness of the discipline enjoined by these and similar rules can be appreciated by anyone acquainted with Woolwich or Sandhurst, not to say Eton, Harrow, and Westminster. The punishments are:—

a. Privation of recreation and privileges, punishment tours, arrest, confinement to room, tent, or in the light prison, or to restricted limits.

b. Confinement in dark prison.

c. Suspension, dismissal (with the privilege of resigning), public dismissal.

The first class of punishment may be inflicted by the Superintendent, but the others only by sentence of a general court-martial.

27. *Undertaking to Serve 8 Years.*—Every cadet enters into a written engagement to serve in the Army of the United States for 8 years, 4 of which are passed at the Military Academy, unless sooner discharged by competent authority. He also takes an oath of allegiance.

28. *Cadet Life at West Point.*—There are about 475 cadets thus distributed:—Freshmen, 155; sophomores (2nd year cadets), 115; juniors, 105; seniors, 100. The uniform is of slate grey, with a shako and white trousers for full dress. For every-day wear there is a close-fitting grey patrol and cap. Every cadet has to make his own bed, take his turn of doing the room (built for two, but until the much-needed new buildings are ready, used by three). The comfort is Spartan. There is a half-holiday on Wednesday and Saturday, and no study from Christmas Eve to the 2nd January. The Superintendent

may then give a short leave of absence to a cadet whose conduct justifies it; and a few weeks' holiday at the end of the second year. All the rest of the four years' course is given over to work from 6 a.m. to 9 p.m. on each day, indoors or out, theoretical or practical, preparing each cadet for every duty of every grade in every arm of the Service. There is a half-yearly examination, concluding on the 23rd December, and an annual examination commencing on the 1st June, conducted by the Academic Board in the presence of the Board of Visitors, whereof 7 members are appointed by the President, two by the President of the Senate, and three by the President of the House of Representatives.

The Academic Board arranges the order of merit of cadets according to examinations, and recommends if necessary for discharge or for transfer to a lower class.

29. *Officers and Instructors at West Point.*—The Superintendent of the Military Academy is General Mills, an officer of great reputation and of great individual charm. Below him is the Commandant, Colonel Treat, who is responsible for the discipline and all drill, tactics, and practical military exercises, with his staff of instructors for the purpose. For the theoretical work there is a staff of eighty officers as professors and assistant professors. No section for instruction exceeds 18, and few exceed 12 cadets. In every department of instruction there is a superintending professor, who rarely teaches himself, but superintends each class on his subject. To every class the cadets comprising it are marched by the senior after a general parade under the cadet officer of the day, and the strictest military discipline is preserved.

The peculiarity of the system of instruction consists in "recitation," that is, every cadet in turn works out his problems on a slate let into the wall, and orally explains it, how the result is arrived at, and the object of each stage. The advantage of this is the acquisition of great facility of speech, and that habit of instruction which is so essential to the officer, but so difficult to acquire save by long practice, more especially by a nervous speaker, to a company or group of men of inferior education. The demerit, in my opinion, is that it takes up time and has a tendency to distract the attention of the studious. Probably a combination of the two systems would best attain the perfect mean, and give greater scope for individuality. Foreign languages—French and Spanish—are taught on the same system, and what the cadets lose in accent, and perhaps idiom, they gain in the discipline neither a French, nor German, nor Italian, nor Russian professor can maintain among Anglo-Saxon youths. I was much struck by the skill in which an officer instructing in French carried a conversation on the events of the day through a class; but when it came to transcription of verbs on a slate in the wall, my little private compliment to a cadet whose work was particularly neat and methodical, the answer to the question, if it was his own idea, was: "No, Sir, it is all prescribed and laid down."

It remains only to be said that no expense is spared in models and mechanical contrivances to illustrate the teaching in every branch. The result of five minutes in the delightful company of Colonel Gordon, Superintending Professor of Mechanical Drawing, with his ingenious models (particularly of the crane), is to convey knowledge in the most rapid and lasting manner.

30. *Perfection at West Point.*—I make no apology for dwelling thus at length upon West Point. Although personally acquainted with nearly every military school on the Continent, and although I wasted 18 months at Sandhurst in the dark ages, I have never seen so perfect an educational establishment; nor, let me say, are the cadets the worse for their incessant studies, their strict discipline, or their Spartan life. A more manly, open-faced collection of young men could not be seen. And, best of all, an undying affection is implanted in them—as at Eton—for the place of their studies. West Point turns out perfectly trained officers; their desire is to return to it. Forty rooms are reserved for officers of the Army desiring to study in the splendid library. They are members of the palatial officers' mess, where from 50 to 100 dine nightly. The honourable ambition of a West Point cadet is his commission, and then the Congressional medal, most sparsely awarded for some very conspicuous deed of valour, and even then only worn in full dress, with the ultimate hope of a bronze tablet in the beautiful Memorial Hall, and a final resting place—"life's course well run"—in the West Point Cemetery.

Nor let it be thought that drill, work, no private cash, and no holiday turn out boors and men of unpolished manners. The art of dancing, for instance, is an obligatory study, and every fortnight or so in the winter months dances are held in the Memorial Hall, an invitation to which is much prized by New York young ladies. "Must I learn to dance, Sir?" said a cadet to the Commandant. "I don't like it." "Please yourself," was the answer, "when you leave West Point, but here you learn to dance, and are to dance as a matter of education in deportment and bearing towards ladies."

What a comfort it would be if a similar course had to precede admission to a London ball-room.

31. *Direct Commissions.* — One word now as to the officers appointed not from West Point; that is:—

a. Those of enlisted men of the Army whose fitness for advancement shall have been determined by competitive examination.

b. From civil life.

Vacancies in the grade of second lieutenant existing on the 1st July of each year after that year's graduates of the United States Military Academy have been commissioned may be taken from those classes. Vacancies occurring after the 1st July are held over until the next graduating class of the Military Academy is commissioned.

32. *Promotions from the Ranks.*—A soldier desiring to compete for a commission must have two years' service, be under 30 years of age and unmarried. On the 1st February of every year each department brigadier appoints a board of five officers (two of them surgeons) to conduct a most rigid preliminary examination of all candidates. On the 1st May the War Department appoints another board of five to conduct a final competitive examination, with a view to the selection of those best qualified for a commission. An enlisted man succeeding in the first examination but failing in the final may have one more trial, but no more. A certificate of eligibility in the final examination terminates on the following 1st May, unless the soldier is again recommended on competitive examination.

33. *Commission from Civil Life.*—A civilian to be eligible for appointment must be between 21 and 27 years of age and unmarried.

He must first obtain a letter from the War Department authorising his examination, which is of a rigid character. There can be no doubt that there is great feeling among West Point graduates against these direct commissions from civil life. Albeit no person having been at West Point can obtain a commission in advance of the graduation of his class.

34. *Staff College.*—There is a Staff and General Service College at Fort Leavenworth, Kansas, as also an Army War College at Washington, to assist the Chief of the Staff to work out plans for the nation's defence, working in conjunction with the Naval War College so as to guarantee harmony of action between the two Services. It is not, however, possible to enter upon their detailed organisation or of the General Staff Corps. It should, though, be mentioned that besides post schools for the instruction of enlisted men, there are garrison schools for the instruction of officers in subjects pertaining to the performance of their ordinary duties, besides special service schools for:—

a. Engineers at Washington.
b. Artillery at Fort Monroe, Virginia.
c. Submarine defence at Fort Totten, New York.
d. Cavalry and field artillery (school of application), at Fort Riley, Kansas.
e. Infantry and cavalry at Fort Leavenworth, Kansas.
f. Army medical service at Washington.
g. Signalling at Fort Leavenworth.

35. *Officers' Pay.*—The pay of the officers is far higher than in any other country. It is sufficient for all requirements, and few, comparatively speaking, have private means. The *jeunesse dorée et paresseuse*, so conspicuous with us and in France, is almost wholly absent. In the United States it is usually engaged in vigorously adding gold to gold.

The second lieutenant receives $1,400 a year (say £280 a year); the first lieutenant, $1,500; the captain, $1,800 (£360); the major, $2,500; the lieut.-colonel, $3,000 (£600); the colonel, $3,500; the brigadier, $5,500 (£1,100); and the major-general, $7,500.

Lieutenants of mounted branches receive an increase of $100 a year (£20), and Captains of $200.

An aide-de-camp receives £40 a year in addition to the pay of his rank.

The pay increases:—

10	per cent.	after	5	years'	service	in	the grade
20	,,	,,	10	,,	,,	,,	,,
30	,,	,,	15	,,	,,	,,	,,
40	,,	,,	20	,,	,,	,,	,,

and in the Philippines and Alaska the rate for officers is 10 per cent. and for enlisted men 20 per cent. in excess of that at home.

Officers retired on physical grounds are pensionable at 75 per cent. of their pay irrespective of service.

36. *Readiness for War.*—While the individual officer of the American Regulars trained at West Point and the individual soldier lose nothing by comparison with the best European comrade, it must be admitted that the co-ordination of the different branches of the Army into one homogeneous fighting machine is less perfect. That President Roosevelt is well aware of this we know from the experiences

and adventures detailed in that interesting book on the Spanish War, "Roosevelt's Roughriders." Since 1898 very considerable improvement has undoubtedly taken place. When Americans discover that something is wrong, neither vested interests, nor out-of-date motives, nor the impracticable theories of musty professors are allowed to stand in the path of reform, and the tariff furnishes boundless resources—£52,000,000 collected from the foreigner at a cost of about 3 per cent.

Last year for the first time Congress voted some £200,000 for manœuvres on a large scale. There took part therein, under General Corbin, now commanding in the Philippines, 20,000 militia and 5,000 Regulars, the immense extent of the country and the great dispersal of the Army preventing the bringing together more of the latter. The site was that of the famous battle of Bull Run in Virginia during the Civil War. That choice, perhaps, revived memories which had better have been allowed to sleep, and somewhat interfered with the distribution of the force and the movements. The country was moreover very closely wooded, the area was very wide, the opposing divisions 10 miles apart, and the communications deep in sand. All these circumstances, in overpowering heat, put a great strain upon men, who had had no preliminary training, and many of whom had had a railway journey of three or four days.

While much tactical skill was evinced by General Grant on the one side, and General Bell on the other, with a General Lee under him, and a Brigadier Barry, of whom much may be heard in the future, and the officers and men showed much zeal and individual merit, it is probable that General Chaffee, the Chief of the Staff at Washington, discovered defects of transport and commissariat, as also the absence of any Reserve, Army Service Corps, or Railway Corps, which he will seek to remedy.

37. *Armament.* — The United States Army, Regulars and Auxiliary, is being re-armed with the Springfield rifle,[1] whereof "the ballistic qualities" are described "as unequalled by any Service rifle in the world."

Strong efforts are being made to complete all fortifications, both as to guns, emplacements, and accessories, to increase the strength of the coast artillery by one half, to increase the number of artillery men and those branches of the Service, the preparation of which, for a war footing requires a long period of time, and to issue the latest patterns of rapid-fire field guns, and "to retain at all hazard in the Service men who can hit the target, not once, but time after time, showing an inborn faculty for the work, rather than men who have simply a knowledge of the theory of gunnery."

38. *The Militia.*—The admirable report of the Hon. Elihu Root, Secretary of War in 1903, states:—"It is of vital importance to have a trained force of militia ready for instant service when called upon, and also have a large number of citizens sufficiently instructed and exercised in the art of war to organise, train, and command volunteer forces."

This from a country removed 3,000 miles at least of ocean from any possible invasion! How different to the foolish declarations of presumably sane men in Great Britain, that no land force is necessary because we have 21 miles of usually calm sea between it and possible invasion.

[1] A short rifle (24-inch barrel), calibre ·300, m.v. 2,300 f.s. (nominal).

Further, the common-sense of the United States declares that the organisation, armament, and discipline of the organised militia shall be the same as that of the Regular Army, and authorises the issue at the national expense of the same arms, ammunition, and supplies which are provided for the Regular Army, and for the payment, subsistence, and transportation on the same scale out of army votes for militia corps participating in joint manœuvres.

There is no friction, no jealousy, no assertion that the Army consists of the Regular Army, and that all auxiliaries are superfluous. The Regulars are charged by Congress "with the duty of applying their military skill and experience to the preparation of the militia and volunteer force, which will be associated with them in the next war, for effective service; and a new responsibility also rests upon the officers of the National Guard to render to the nation full and unstinted return for the enlarged means and opportunities which the liberality of Congress has afforded."

39. *The Militia.*—Let us then study the organisation and condition of the United States Militia in some detail.

It has little or no relation to our Militia, but corresponds almost entirely to the British Volunteer Force, and in time of war, when called into the service of the United States, it forms, with the specially enlisted U. S. Volunteers, "The Volunteer Army of the United States." Although every male between 18 and 45 is liable to serve in the militia—and there are 17 millions of militia age, according to the bulletins of the Director of the Census at Washington—recruiting for it is at present entirely voluntary.

It is a State force as distinguished from a Federal force, and the power over the militia of any State of the President or of Congress or of the Federal Government was limited until 1903 to the case of invasion or danger of invasion or inability with the other forces at command to execute the laws of the Union in any part thereof. A tendency is, however, now observable on the part of the central authority, by money grants on prescribed conditions to be vouched for by inspection, to take more interest in and to endeavour to obtain more control of the State, or, as we should say, of the County Auxiliary Forces. The efficiency and readiness for instant mobilisation of the cadre are, however, more the object aimed at, than the prowess of the individual, who is here to-day and gone to-morrow. It is true, though, that the Medical Department suggests some 60 medical tests, all of which I feel sure that neither Hercules nor Apollo could have passed.

The States take, however, as a rule great interest and pride in their local militia. Its numbers and financial assistance are laid down by the legislatures of the several States, except that by the Militia Act of 1903:—"The organisation, armament, and discipline shall be the same as that which is now or may hereafter be prescribed for the Regular Army, and that the President may fix the minimum number of enlisted men in each company (64), troop, or battery."

The interest of the individual State in its militia is reflected in the counties and municipalities composing it. Under the lead of New York, whose counties—King's, Queen's, and New York—maintain 18 drill halls at a cost of over £75,000 a year, most cities allot excellent sites for the headquarters of its militia corps at a nominal rental, and assist them by grants for the upkeep and care of buildings, as well as

the gratuitous supply of gas or electric current, besides freedom from rates and taxes.

There are two reasons for this. The first, the recognition by all men of common-sense that military training is of the utmost value to any community, and that the more who can be put through it, even although not at every minute fully-trained soldiers, the better. The second, that pending the better organisation of the police under permanent chiefs, understanding police work and freer from governors, mayors, commissioners, and other officials, elected by popular vote, and often limited in experience by brevity of tenure and fleeting popularity, the militia is regarded as the ultimate guarantee of civil order, amid not a few elements of explosion.

40. *Composition of Militia or National Guard.*—The militia of the United States now consists of 8,805 commissioned officers and 107,132 enlisted men. Of this number, 6,695 officers and 81,007 men were present at inspection in 1903, and 6,915 officers and 83,385 enlisted men last year. It is estimated that about 75 per cent. of the total strength of the organised militia would respond to a call for service under the Federal Government.

The force is distributed in 1662 companies (equivalent to 138 regiments) of infantry, 86 troops (equivalent to 7 regiments) of cavalry, 34 companies of coast artillery, 76 batteries of field artillery, manning 244 pieces of field artillery (mainly of 3·2 calibre). 26 batteries are to be equipped with the new 3-inch Q.F. field gun, 4 guns per battery.

There are also 17 engineer organisations and 15 hospital corps, making a total force of 5 militia army corps of three divisions, each with three regiments of infantry and a tactical complement of cavalry and artillery.

The Militia Staff, as in Switzerland, is also formed by the militia, and not as with us by Regulars, who would not be there when they were wanted in war, with a total of 1,360 staff officers.

In 1904 the Secretary of War reported "that of 1,681 organisations inspected, 1,229 were sufficiently armed and equipped, and 985 completely uniformed for active service at any season of the year, and ready for active duty in the field, and that of the officers and men of the organised militia, 100,345 declared themselves ready to respond to a sudden call of the President."

Great pains are being taken to promote rifle practice. Congress appropriates a considerable sum yearly for trophies and prizes. There is a Rifle Board consisting of the Assistant Secretary of War, 2 officers of the Army, 1 of the Navy, 1 of the Marines, 8 trustees of the National Rifle Association, and 8 prominent officers of the National Guard. The Secretary of War points out that "a majority of young men in the thickly settled parts of the country have never fired a gun, and would be quite harmless to an enemy until taught to shoot. The time to give that instruction is now. We ought not to wait until we are actually engaged in hostilities. When that time comes the enemy will not wait for us to give the instruction."

41. *Officers.*—The officers of the militia are nominated by election: the company officers by the company, the field officers by the captains—an unfortunate, unreliable mode of procedure, from which the British Volunteer Force has fortunately extricated itself. Many, however, in the higher grades are ex-Regulars. The four years to come of President Roosevelt's administration will see

very great changes and improvements, as have the past three years, and it is how the militia will be in 1908, rather than how it is to-day, which should interest the military student. That the material is, on the whole, excellent, the Virginian manœuvres showed, or rather, perhaps, I should say, circulation among the individual members of the militia force taking part in them.

42. *Militia Camps.*—There are 31 adjutant-generals appointed "to perform such duties as may be prescribed by the laws of a State or territory, and to make returns and reports on the militia to the War Department. Of these 1 has been lieut.-general of Regulars, 9 brigadier-generals, 5 colonels, 4 lieut.-colonels, 7 majors, and 5 captains. When the report of the annual inspection on behalf of the Secretary for War certifies that a regiment of militia is sufficiently armed, uniformed, and equipped for active service in the field" — and again I point out that inspecting officers pay far more attention to these points than to the passing individuals — "the State receives its proportion of a grant of a million dollars for the payment, subsistence, and transportation of such portion of the militia as engages in actual field or camp service for instruction, and the officers and enlisted men of such militia while so engaged are entitled to the same pay, subsistence, and travelling allowances as officers and enlisted men of corresponding grades of the Regular Army."

This rule applies also whenever an officer of the militia pursues any course of study at any military school or college of the United States, and in addition a subsistence allowance of 1 dollar a day.

43. *Drills Required of National Guard.*—In order to earn for his corps the capitation grant, which works out at about £1 12s., there must be "assembly for drill and instruction at company, battalion, or regimental armouries or rendezvous, or for target practice not less than 24 times," in addition to attendance at inspection and "participation in practice marches or going into camp of instruction at least five consecutive days."

The 24 drills, however, usually take place in the winter evenings, between 1st October and 31st March, in the regimental armouries, many of which are, although not so large as that of the famous 7th Regiment of the National Guard of New York, which cost £150,000, and is 300 yards long and 200 wide, of sufficient size to manœuvre a battalion with ease. There is consequently no call upon the indulgence of employers. The musketry is usually done simultaneously with the week's camp, any amount of Government ammunition being issued for the purpose.

44. *Volunteers.*—But in addition to the Regular Army, in addition to the National Guard, in addition to compulsory militia service, if need arise, the American people contemplate in peace the use of a further force in war, which, although non-existent until the day of mobilisation, it has the wisdom to prepare for. The President, as soon as Congress has given its authority, will call on the Governors of States for contingents of Volunteers in proportion to their population. They will assemble at State camps, and after medical inspection will be taken over by the War Department, armed, accoutred, disciplined, and paid like Regulars. For the Spanish War a quarter of a million of volunteers were forthcoming in a few days. The confusion that then ensued will not be repeated. The colonels will be ready for the battalions, former captains of Regulars or majors of

militia; the captains for the companies, former lieutenants of Regulars or militia, all examined, tested, trained, of suitable age, character, and physique, fit to march.

45. *Reserve of Officers.*—"For the purpose of securing a list of persons specially qualified to hold commissions in any volunteer force which may hereafter be called for and organised under the authority of Congress" (nearly 250,000 were raised for the Spanish War, and 40,000 went to the Philippines), "other than a force of organised militia, the Secretary of War is authorised from time to time to convene boards of officers at suitable Army posts to examine as to their qualifications for the command of troops or for the performance of staff duties all applicants who shall have served in the Regular Army of the United States, in any of the Volunteer Forces of the United States, or in the organised militia of any State, or who, being a citizen of the United States, shall have attended or pursued a regular course of instruction in any military school or college of the United States Army, or graduated from any educational institution to which an officer of the Army or Navy has been detailed as superintendent or professor."

"The record of previous service of the applicant shall be considered as part of the examination."

"The names of persons certified to be qualified shall be kept in a register at the War Department, stating the offices they are qualified to fill."

"The persons so certified and registered shall, subject to a physical examination at the time, constitute an eligible class for commissions in any volunteer force hereafter called for, and the President may authorise persons from this class to attend and pursue a regular course of study at any military school or college of the United States other than West Point, and to receive the same allowances and commutations (*i.e.*, corresponding pay of Regular Army, plus 1 dollar a day) for officers of the organised militia, provided that no person shall receive a commission as second lieutenant after the age of 30, of lieutenant after 35, of captain after 40, of major after 45, of lieut.-colonel after 50, or of colonel after 55."

It will be readily recognised why I quote textually these provisions of the Militia Act of the United States of 1903.

They had their origin not only in the experience of the Spanish War, but of our own in the South African War, when we raised great volunteer forces, but had no system for properly officering them.

Have we profited in any way by our unfortunate experience, or acted upon the recommendations of the Royal Commission on the War? I am not aware of it; but am painfully aware that the 2,700 vacancies in the commissioned ranks of the British volunteer force are receiving daily additions, and nothing is being done to stay the tide.

46. *Temporary Increase of Military Establishments.* — Our American cousins, on the other hand, have given their Government statutory authority "to temporarily increase the military establishment of the United States in time of war," and have everything in readiness to put the whole machine into motion on the pressing of an electric button by the fore-finger of one man.

"The President is the exclusive judge of the existence of the exigency justifying the calling out of the militia, and the executive

measures necessary for giving effect to the call are Ministerial Acts, which the Secretary of War may perform as the representative of the President."

Thus runs the latter part of No. 456 of the Regulations for the Army of the United States for 1904.

Can we not read therein and in the laws of the free democracy of which it is the outcome, a sharp lesson for ourselves?

The only thing lacking to the United States are possible enemies, unless they seek to colonise in the Old World. Great Britain, on the other hand, is in a far less enviable position. In all parts of the universe we have isolated possessions, the attacking of any one of which by its powerful and often envious neighbours may call for the united effort of the entire Empire. Yet we have nothing ready, put no confidence (or a farthing of cash) in the Head of the State or in the Government, to mobilise all the forces of the Empire, while "Danger," being signalled, may be averted by forethought and timely preparation.

While the United States could, as I have shown, call, on emergency, 17 millions of men to arms, although, of course, neither arms nor equipment exist for that number, we are content to cut and pare Regular and Auxiliary Forces, to let them drift and melt away; to take little or no thought for the morrow.

Despite the Hague Conference of 1897, preceding the three great wars: the Spanish-American; the South African; and the Russo-Japanese, in which 150,000 men, in the opinion of General Kuropatkin, were killed and wounded in two engagements; despite Inter-Parliamentary visits of friendship; despite the treaties of arbitration, due so largely to the beneficent influence of King Edward the Peacemaker, the words to the American nation of President Roosevelt are pregnant of warning. The following extract from the Presidential Message to Congress, of the 5th December, 1904, is worthy of serious note:—

> "It is not merely unwise, it is contemptible, for a nation as for an individual, to use high-sounding language to proclaim its purposes, or to take positions which are ridiculous, if unsupported by potential force, and then to refuse to provide this force. . . . The eternal vigilance, which is the price of liberty, must be exercised. . . . I must earnestly recommend that there be no halt in the work of upbuilding the American Navy. . . . Our voice is now potent for peace, and is so potent because we are not afraid of war. . . . We need to continue building our fleet of battle-ships, or ships so powerfully armed that they can inflict the maximum of damage upon our opponents, and so well protected that they can suffer a severe hammering without fatal impairment of their ability to fight and manœuvre. . . . The guns now mounted require 28,000 men, if the coast fortifications are to be adequately manned. . . . It is very important that the officers of the Army should be accustomed to handle their men in masses, as it is also important that the National Guard of the several States should be accustomed to actual field manœuvring, especially in connection with the Regulars. . . . We are not to be excused if we fail to keep the Army at a very high grade

of efficiency. It must be incessantly practised; the standard for the enlisted men should be kept very high, while at the same time the Service should be made as attractive as possible, and the standard for the officers should be kept even higher. . . . We should be able, in the event of some sudden emergency, to put into the field one first-class army corps, which should be, as a whole, at least the equal of any body of troops of like number belonging to any other nation. . . . We should pay much more heed than at present to the development of an extensive system of floating mines for use in all our more important harbours. These mines have been proved to be a most formidable safeguard against hostile fleets. . . . I earnestly hope for the immediate enactment of the legislation now pending to encourage American capital to seek investment in the islands (colonies), in railroads, in factories, in plantations, and in lumbering and mining."

Colonel Ottley Perry (2nd V.B. L. North Lanc. Regt.):—I venture to ask Sir Howard Vincent for a few additions to the very instructive and valuable address with which he has favoured us. I had the pleasure of visiting West Point a good many years ago, and have seen both the Militia and the Volunteers in different parts of the States and Canada. There was one point which, perhaps, was not brought out with sufficient prominence in the lecture, namely, that the class of men from whom the United States recruit their officers is in no sense the same as the class from which we recruit them here in Great Britain. I do not state this as an objectionable feature, I merely state it as a fact. When I visited West Point, I went through the classes and listened to the various lectures that were given. I noticed among the young cadets present at least one negro, and he was by no means the least intelligent among the young cadets there. In fact, the nominations, as far as I could make out at that time, were purely political, and men were put forward for commissions who in this country would not be considered in any sense eligible. Again, the discipline appeared to me to be absolutely Spartan (I think Sir Howard used that expression himself) and the little rooms in which the cadets lived seemed very much like prison cells. If a cadet failed to put even his boots on that particular part of the shelf which was allotted for his boots he was subject to be reported at once, and if his senior did not so report him for having neglected his duty, that senior was subsequently, if the matter was discovered, punished. If I remember right, no cupboards or desks, or even curtains to hide the contents of the deal shelves, were allowed. The cadets were marched not only to their classes and to their lectures, but they fell in in the yard to the sound of the bugle and were marched to their meals; and both sat down and subsequently rose again at the word of command. In return for that they receive pay and a singularly excellent course of instruction. I was as much struck as the lecturer was with the "plant," and the general facilities for giving a first-rate scientific education. And the education was not differentiated as it is here. I forget for how many years, but at any rate, for something like half the course, the education was the same for all branches, artillery, engineers, cavalry or infantry. They all obtain a scientific education and a thoroughly practical one. There is another little point which I think it would be rather useful to know, and

I therefore ask the lecturer if he will kindly tell us subsequently what the strength of the United States' Regular Army is at present as compared with that of the Militia and the Volunteers. He spoke of a very large number, several millions, as being available, but I would like to know what the strength of the Regular Army is now in times of peace. With regard to the desire of all Americans to drill, there is no doubt whatever there is a good deal of what we should call in this country "peacocking." Drill is indulged in, not merely by Militia and Volunteer corps, but by all sorts of independent organisations. For instance, the Association of Carpenters and Joiners turn out on their annual day in most gorgeous military uniforms. They wear swords, they go through complicated drills, and they do it uncommonly well. But they do not do it, and do not profess to do it, as military bodies; they do it because it amuses them. Then again, at their annual gatherings they will take, for instance, a theatre, and the civilian officers of these civilian societies will occupy the boxes, dressed in the full uniform which that particular Association has happened to choose. I found the same thing prevailing in Canada. I do not mention this as a subject for ridicule, but as illustrating the extraordinary degree to which Americans have fallen in with what they consider to be military habits and ways, and how they love drill in almost any form, and go in for it very much as we should go in here for gymnastics. Then I do not think the lecturer told us what the Militia pay was, and I think it would be very interesting if he would do so. He also referred to the adjutant-generals of districts. I would ask him, is it not a fact that in the States these adjutant-generals are not, or were not, necessarily soldiers? I know they were not in Canada; but is not it the case in the States also that the adjutant-generals of Militia districts are civilians, and that they hold paid political appointments, which are given to supporters of the Government, and not necessarily to good administrators from an Army point of view? I do not think I need trouble you with any further remarks, except one, and it is this. The lecturer, after telling us that the American private received 100 per cent. more pay than our men do, said that 50 per cent. of this increase was practically neutralised by the high cost in the United States of any articles he might have to purchase for himself. The lecturer then concluded by saying that therefore the advantage the American private would receive would still be 50 per cent. more than what our men would receive. It is, of course, only by assuming that other conditions (as regards "stoppages," and "free kit," and "passes," etc.) are equal, that this large advantage in pay can be said to exist. I merely mention this, not because I wish to find fault, but because some gentlemen may go away with the idea that the increase or the improvement of pay in the United States was very largely in excess of what it actually is. I can only conclude by thanking Sir Howard Vincent very cordially for his excellent lecture.

Captain Chas. Slack (late 3rd Middlesex Artillery Volunteers): — I only wish to make the remark that I was in the United States in the summer of 1903, and visited the camps at Fort Sheridan and San Francisco. The average height of the United States soldier appeared to me to be about 5 feet 8 inches, and I thought he had usually a wiry appearance. But, on the other hand, I think that the soldiers we see here in the Metropolis and the German soldiers, both compare very favourably with the United States soldier. A United States soldier is dressed in a suit of dark blue, which I think might be improved

very considerably, so far as appearance is concerned. I noticed at Fort Sheridan a company of about 100 men, who were dressed in khâki, ready to proceed to one of the out-lying stations, where there was an Indian disturbance. I asked an officer of the United States Army in 1903 what the strength of the Army was, and he replied 65,000. The lecturer, I notice, has not said anything about the question of desertion, which I believe is very considerable in the United States Army. I should be glad to hear the lecturer say something on that point in his reply.

Major-General Sir E. T. H. Hutton, K.C.M.G., C.B. :—I think all British soldiers owe Sir Howard Vincent much gratitude for a very instructive paper, and for so much useful information in connection with the Army of that other great branch of the Anglo-Saxon race which we are so proud to claim as kinsmen. Having during the course of my service commanded in Canada, I have had especial opportunities of being conversant with the feelings and ideas of the United States Army, and I also think to a certain extent with the trend of the military developments of which Sir Howard Vincent has been speaking. I should like, first of all, to refer to one or two points as regards the Regular Army. The United States Regular Army is one of unquestioned excellence in physique, discipline, and general military efficiency. It especially proved its value during the recent Cuban War; and I think if Sir Howard Vincent will allow me to say so, in a great measure its present popularity is due to the extremely gallant and excellent service which it rendered during that campaign in Cuba. It is a well-known fact to those who were present, that the success of the United States arms was almost entirely due to the steadiness and gallantry of the Regular troops which took part in that campaign, to which may be added the Regiment of Roosevelt Rough Riders. The Militia were not, on that occasion, a success. I do not think the popularity of the American soldier at the present moment is a question of his daily pay. There is unquestionably rising in the United States now a very strong feeling, which may almost be called militarism. It is nothing more than the instinctive martial feeling of the Anglo-Saxon showing itself. The real reason why the Regular Army is popular in the United States is that the Regular soldier is respected, and is now treated with the greatest possible consideration. He is very well fed, far better fed than we British officers have any idea of. His meals, above all, are served in a proper and satisfactory manner in large dining halls provided for the purpose. Secondly, he is well housed. He is not stationed in such quarters as those in out-lying districts in Ireland; he is not subjected to having to perform those menial offices which are so distasteful to the British soldier at the present day; and, perhaps what is the most important point of all, he is allowed to wear plain clothes in the evening. If you will allow me I will further add, from my experience of command also in Australia, that the reasons for the popularity of the Regular soldier in the United States Army are the same which have made the Royal Australian Artillery popular in Australia. Recently in Melbourne there were 24 vacancies in that part of the Royal Australian Artillery allotted to Victoria, and for those 24 vacancies we had approximately 270 applicants. The rate of pay in the Royal Australian Artillery is 2s. 3d. a day. The ordinary unskilled labour wage in Australia is between 7s. and 8s. per diem. So that it is not a question of pay which attracts the Australian soldier, and I feel certain that it is equally not a question of pay to the American. As regards the Militia, I think the important point which Sir Howard Vincent has made in his admirable paper is the

recognition of that great man, the President of the United States and of the American public generally, for a National Army, and a National Army apart from its Regular Army. When I was commanding in Canada, during 1898-1900, the Militia of the United States, at that time, as they are now, being entirely under the different States, were in a very varied condition of excellence. I was credibly informed that in the majority of the States their efficiency was very indifferent, and in some of the States the condition of the Militia was stated to be beyond indifferent; in fact, the condition of the States Militia at that time caused the present President, Mr. Roosevelt, who was at the time I am speaking of Governor of the State of New York, very grave concern indeed as regards the national future of the United States. I can well understand, therefore, that the lecturer is correct in saying that not only is the State Militia of the United States about to be put on a much higher plane of efficiency, but that the means of increasing the National Army of the United States is also to be placed upon a practical basis, and that a National Militia Army, as apart from a fragmentary system which has hitherto existed in the United States, is likely to be put into effect. The lecturer has especially alluded to the changes which are likely to take place in the United States between the present time and the termination of the period of the Presidency of President Roosevelt. I am convinced that the changes which will take place will be in the direction of placing the State Militia of the United States upon a complete system of organisation, that is to say that the existing units of artillery, infantry, and cavalry, and, in some States, of departments—for some States have no departments at all—will be reconstructed and placed upon a brigade and division basis; that there will be peace and war establishments, so as to enable the existing Militia to be increased to a war establishment when necessity arises; and by so doing, in place of having 100,000 Militia as at present there will be a possibility of putting in the field twice, or even four times that number. Such is, in my judgment, the trend of the changes in the United States. If I may be allowed to compare very small things with great, I would say that the Australian Commonwealth Government within the last three years, having had the advantage of the knowledge of the military system in the United States and also that of Switzerland and the United Kingdom, have been enabled to put into effect a complete National Militia Army System. At small cost Australia has at the present moment a field force, on its peace establishment, of nearly 14,000 men for the defence of the Commonwealth as a whole, and organised into six light horse brigades and three infantry brigades, which are capable of being increased to 28,000 men in time of war, irrespective of a garrison force of 12,000 for local or State defence. This field force is thus divided into brigades, and each brigade possesses its proportion of various arms and of the administrative departments, so as to enable it to take the field for active operations. In the United States, as in all parts of the British Empire, the feeling is prevalent that a Regular Army of this description, which is alone possible under an Anglo-Saxon form of Government, will not meet the modern demands of war, but that we must have a national military system of some kind which will enable us to utilise, both here, in America, and in our Colonies, the magnificent material which we have ready to hand. Until this fact is realised we shall never have any satisfactory solution of the defence question.

Colonel Sir HOWARD VINCENT, in reply, said: — Colonel Perry was so good as to ask one or two questions. As regards West

Point, I should like to say that, although it may be rather a conservative institution, the West Point of to-day is not what West Point was some little time back. Tremendous efforts are being made to improve the military system in every shape and form; and military enthusiasm in the United States at the present time is attracting a superior class of men to the commissioned ranks than was the case, perhaps, some years ago. Of course, there is always the great difficulty that the opportunities of civil openings which are existent in the United States, and the very remunerative positions which are obtainable at a comparatively early age, constitute a very serious competition as regards the Army; but judging by my limited experience, I was extremely favourably impressed with the high character of the American Regular officer. Then, as regards colour, I would rather not say anything; I do not think there are any coloured there at the present time. The discipline is certainly very Spartan, more so than we could possibly enforce in this country. However, it seems to answer exceedingly well. Perhaps there is no greater tyrant than a democracy; but the result seems to be a very great success. The strength of the Regular Army at the present time is about 3,700 officers and 67,000 men; the strength of the Militia is 8,805 officers and 107,000 men. Colonel Perry asked what the pay of the Militia was. It is rather difficult to make out exactly, but my impression is that at any rate the 20,000 men of the Militia who were at the Virginian manœuvres received exactly the same Federal pay as the Regulars, which pay was brought up for the private to a minimum of $1.20 or $1.25, that is, 5s. a day, by additions from his State funds. The adjutant-generals whom I have been brought into communication with are certainly soldiers of great experience, and admirably fitted for their post of organising and inspecting the Militia. All, or nearly all of them had served in the Regulars, and several in the rank of brigadier. I should think the desire of President Roosevelt was only to put the very best men who were obtainable in posts of that character. I am afraid Colonel Perry rather misapprehended the drift of my observations as to the pay of the United States soldier. What I wanted to say was that I did not quite realise that there is so much difference in pay between the private in the United States Army and the private in the British Army; but for reasons which I have stated, it is rather difficult to calculate. The Secretary of War in the United States, who ought to know better than I do, disagrees with me; but he only puts the pay of the British soldier at half the pay which I calculate it is according to the little book which I obtained at the Post Office. I have entirely failed to get from the Director of Recruiting what is the pay of the British soldier. If anybody here can tell us what the pay of the British soldier is, grade for grade, I shall be exceedingly obliged to him. It is not information which I would undertake to give, because I have been unable to obtain it. A high American authority, who is present, tells me that in his opinion the advantage is on the side of the British soldier. With regard to the appearance of the American soldier, it has enormously improved in recent years. Without disparaging in any way His Majesty's Guards, or the soldiers whom we see in the Metropolis, I can honestly say that I think they compare very favourably indeed with His Majesty's troops of the Line; and as for their comparison with French or Italian or Spanish or even German troops, I think the American is infinitely superior. He has not perhaps quite such a gaudy uniform, and is not so "starchy," but his khaki is just like ours, and it is almost impossible to tell one from the other; and when they fight side by side, as perhaps they may do, it will be extremely difficult to tell them

the one from the other when they are dressed in that uniform. Captain Slack asked a question about the number of desertions. I have not the exact figures of the number of desertions, but you will understand that, with the great opportunities there are in America for advancement in civil life, there is a certain amount of desertion; but I do not think it is any worse than it is with us, or in foreign Armies—if they could only get away. There are, of course, a certain number of casualties; but I ought to have said that the death-rate is exceedingly low, the lowest of any Army in the world, which will give you an idea of the physical efficiency of the American soldier. I am sure we are all glad, not only to see Sir Edward Hutton back again from Australia, where he has done such excellent work, as he did also in Canada and South Africa, but also to hear his observations. I have nothing whatever to say as regards them, except to express myself happy in finding myself in such complete agreement with him. It is not the Militiaman of the United States of to-day you must look at; you must consider how he will be in 1908 or 1909, after President Roosevelt's term of office. The point which I am anxious to emphasise, and the real object of my giving the lecture, is to bring before the people of this country, who are, after all, much nearer scenes of strife than the United States are, the enormous military spirit which is prevalent in the States, and to tell you how in all the recent Acts of Congress the President is being supported by both the Senate and the House of Representatives in perfecting the military machinery, and how everything is being done in the United States to prepare for the war. (They talk about "the next war," but where in the world it is to come from I cannot conceive.) To prepare for any war which may come, that is the object, although they are so far removed from all possible scenes of European or Asiatic strife. I am sure everyone who has given any attention whatever to the subject will cordially agree that what we so much want in this country is some national system, some permanent system, something at any rate which will tell us where we are, which is more than we know at the present time. I am greatly indebted to you for your kindness in according me such great attention, and to you, Sir, for taking the Chair to-day.

The CHAIRMAN (Major-General G. Upton Prior):—I think we have listened to a most instructive lecture, which has told us a great deal about the United States Army. No apology is due from the lecturer for the time he has occupied in dealing with such an interesting subject. I will also take this opportunity of saying that we are thankful to Sir Edward Hutton and the other officers who have taken part in the discussion. Sir Edward Hutton's remarks were particularly interesting, because he held the command in Canada for some time. It seems to me a great pity that the whole House of Commons is not here to-day, for questions connected with the Army must very soon come up during the coming session of Parliament, and the members of the House would certainly have been interested in this lecture. It is always most interesting to hear what other nations are doing in the great Army problem, and more especially to know what is being done by a nation of our own kith and kin, of great enterprise and resource, generally not considered dull-witted, and, as we have heard all round, of considerable war experience lately. I will ask your kind indulgence while I make a few remarks, and compare some of the leading points of the United States system with similar ones of our own. Take first the Militia Obligatory Act. The difference between the two is that seemingly the Militia Obligatory Act can only be put in force on certain occasions, such as

invasion or rebellion, but our Militia Ballot Act is always in force, and, in fact, requires an Act of Parliament annually to allow it not to come into operation. Another point that the lecturer has brought out is the vast number of men that can be embodied under the Militia Obligatory Act, some 17 millions; and, further, that of these men a fair proportion have some previous military knowledge owing to the system of sending, I think it was some 80 or 90 officers, to the schools to instruct them. We have a similar plan in our Church Lads' Brigades and our Cadet Brigades. How many men our Militia Ballot Act could embody I do not know; but I suppose it has been threshed out well by our Intelligence Department, and they would know. It is curious that two nations who boast of the freest institutions in the world should, when they require a large number of men, resort to forced service, and obtain that forced service through the old constitutional force, the Militia. Another point worth comparing with our own is their method of recruiting. Recruits are not obtained by recruiting sergeants in the streets, nor are they sought for at all. The Government make recruiting an ordinary business, like anything else, and the recruits have to go and look for work. It appears that for every vacancy in the United States Army there are four applicants. The term of "Enlistment" is for three years only. They have the option of a further enlistment for another three years, and then further service for a pension; but the lecturer has told us that only the best men are allowed to re-engage, so that the competition to remain in the Service is very great. Then we have a point brought out which seems to me the most important one in the lecture, so far as comparison with our Army goes. The United States will not accept boys as recruits for their Regular Army like we do; the age for enlistment is 21. Their regiments are not thus flooded with a mass of boys in peace time, who, directly war breaks out, have to be sent off to the depôts, leaving their regiments like squeezed lemons, and making them a regular scratch pack when filled up by Reserve men. By enlisting their recruits at the age of 21, the United States avoid all this; the battalion goes to war as it stands in peace, the officers, the non-commissioned officers and men all knowing one another. The Reserves fulfil their proper *rôle* as Reservists, joining their regiments on active service only some time after the war has broken out. They are thus able to obtain employment much easier than our men. Again, men at the age of 21 are fit for foreign service, and all the trouble relating to foreign service which we now have is at once avoided. The saving of expense to the State under this system would be enormous. It is not the place to go further into this question now; but I would say shortly that it seems to me it would be quite possible to modify our Militia Ballot Act in such a way as to make it sufficiently palatable to the country to allow the Act to be put in force *every year*, and then to use it in such a way as to make 20 the age of enlistment for recruits of the Regular Army, and the term of enlistment three years. The expense of the Army to the country now is so enormous that it must be stopped in some way, and I see no other way of doing it, and at the same time of getting the mass of trained men now required. The last point I would remark upon is that though the United States are building a most powerful Navy, yet the lecturer tells us they have now a Regular Army of about 70,000 men, which is only the basis of a larger force, besides a Militia force of 115,000 men, and a power of further embodying 17,000,000. Now, what are the necessities for so large a force? It is commonly said that

everyone has a skeleton in their cupboard. What are the United States skeletons? We have heard of one from the lecturer, namely, the holding of the Philippines; but perhaps we had better leave the others in their cupboards. But still, all their skeletons can be very minor ones as compared with our big skeleton of the North-West Frontier of India. The Secretary of State for War, in his speech at Chelmsford quite lately, in reply to his own question of what do we want an Army for, said we wanted an Army which would carry a war across the sea against an enemy outside these islands. This was a fair statesmanlike conclusion, and I think I hear our skeleton distinctly rattle. It is interesting to think that if the United States require such a large force for the small problems they have to undertake, what numbers of *trained* men they would consider it necessary to have ready if they had our big skeleton of the North-West Frontier of India to deal with. A smaller point that I would like to allude to is the rule about staff officers being forced to rejoin their regiments for two years after four years' staff service. I think our Army has suffered greatly from the non-compliance of somewhat similar rules in the old days. We have had a most interesting lecture, and I think we are much indebted to Colonel Sir Howard Vincent for the trouble he has taken in its preparation. I am sure it would be the wish of the audience and of the Institution that we should give him a cordial vote of thanks for the most interesting and able address that he has placed before us to-day.

THE STRUGGLE FOR THE PACIFIC.

Extracts from the French of Mons. RÉNÉ PINON.

Translated by permission of the Author

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PART IV.

THE BRITISH EMPIRE.

IF it could appertain to one Power alone to exercise the "Mastery of the Pacific," it would seem, at first sight, as if the right of maintaining the integrity and benefiting by the profits of the Far East should rest with Great Britain. Does she not possess, all to herself, a whole continent whose shores are washed by the waters of the great ocean? Does she not extend her rule over the islands, great and small, of the Australian Archipelago? Does she not by means of Singapore and Hong Kong control the depôts of commerce in the China Seas and share the sovereignty of the American shores of the Pacific with the United States? Has she not, lastly, her mail steamers and cables which furrow the vast liquid desert? But among all these various countries where the flag of the British Empire flies there is neither similarity of organisation nor unity of interests. Australia is in reality a new nation recently turned into a Commonwealth; it voluntarily remains loyal to the Mother Country on the condition of not being interfered with as regards liberty of action and self-government. New Zealand is so jealous of its independence that she even refused to join the Australian Commonwealth. British Columbia is a part of the Dominion of Canada, and has its particular administration and interests. Hong Kong and Singapore are only depôts or bases for trade; the other tropical possessions are for the most part uninhabitable by Europeans, and can never be anything but small settlements. Thus in studying British influence in the Pacific it is necessary to carefully distinguish between the different portions of the Empire; each is able to prosper by itself, and Great Britain receives no benefit from them except the somewhat empty honour of having given them life, language, and civilisation. Australia, at the Antipodes of the Mother Country, has taken up strongly the question of Imperial expansion and sea-power. Before being federated the Australian colonies signified their intention to the Home Government of exercising control over all the islands of Australia and Polynesia, and stated that if some of them were allowed to remain in the

hands of other Powers, it was at least intended not to allow France or Germany to make any further acquisitions in the Pacific. They have also declared that they do not admit that France is definitely established in the New Hebrides, although her colonists in these islands are in the majority. Further, Australia does not trouble to conceal the opinion that some day or other New Caledonia and the neighbouring islands will revert to the new Commonwealth. The ardour of the Jingoes of Sydney and Melbourne has even gone so far as to claim the whole of New Guinea and Dutch Malaysia. This Australian Imperialism is as cheap as it is exacting, for, as a matter of fact, the Commonwealth has neither a Navy nor an Army, the Mother Country maintaining a fleet in Australian waters. . . .

Australia embraces an immense territory, but has a population of barely four millions; a desert more sterile than Sahara occupies the whole of the middle of the Continent; tropical forests cover the northern portion. In spite of these disadvantages, Australia is capable of supporting three times the number of inhabitants it does, but it is fenced in with Custom-house laws and regulations prohibitive to immigration.

Australia loses all influence on the outer world by this policy of isolation; her population remains stationary, and her products are not developed. Problems, at present postponed, will one day be more acutely felt, when it becomes more and more difficult to close the doors to immigration; already Queensland, a province with a tropical climate where the white man cannot work, declares that she cannot get on without coloured labour. Australia may one day be a prosperous white Republic—this is a point we will not discuss now—but she will see the command of the Pacific passing into other hands, and this is a matter on which we French should congratulate ourselves, as we possess quite a network of islands in the Pacific which Australia covets.

Other British colonies and possessions are grouped in a semi-circle like satellites round Australia. New Zealand, a land of temperate climate, has astonished the world with her rapid growth and wonderful prosperity. Like Sydney, Auckland is one of the Anglo-Saxon capitals of the Southern Pacific; both are connected with Vancouver in British Columbia by a regular fortnightly steam-ship service calling at Fiji and Tahiti on the way. The Fiji Islands and a myriad of small ones round them extend the possessions of the British to the North and surround our colony of New Caledonia and the Archipelago of the New Hebrides. The group of the Solomon Islands, which are almost within the tropics, form a geographical off-shoot of New Guinea, that immense island, almost the largest in the world and practically as yet unknown, and of which the English occupy the south-east portion bounding the Torres Straits. Port Moresby is the capital of a damp and tropical country whose forests abound in precious scents, whose soil is fertile and sub-soil rich in minerals, but which is barely inhabitable. The Dutch portion in the west possesses the best ports and the healthiest plateaux; Germany, in the north-east, owns a hilly and rugged province with no ports. Of Borneo, Great Britain only possesses a fraction, the development of which she has handed over to the Chartered North Borneo Company; the interior of the island is covered with virgin forests and is almost unexplored, but the port of Labuan, where the English have been established since 1846, occupies a very advantageous position between

Singapore, Hong Kong, and the Australian ports; the chief export from Borneo is an inferior but yet valuable kind of coal. The Chinese at Labuan, as at Sarawak, are the only labourers from whom any useful work is obtained. They have emigrated there and do not aspire to supplant the aborigines, but are peaceable, hard-working, punctual, and industrious; nearly all the trade in Borneo is in their hands, and they alone will one day get full value out of these tropical regions. The Dominion of Canada at the other side of the Pacific has, like the United States, its outlet to the great ocean. British Columbia is a marvellous country, rejoicing in a temperate climate at once healthy and rich in forests, pasture-land, and mineral wealth. The coast is indented with numerous peninsulas and islands, and provides excellent sheltering places for ships; the harbour of Victoria, sheltered behind the island of Vancouver, is one of the finest and safest in the world; mountains, however, border the sea-coast so closely that there is not much room for cultivation, and towards the north the American frontier of Alaska is met, which denies access to the sea to Columbia for a considerable distance. The recent arbitration, in which the claims of the Canadians have not yet been satisfied, produced a lively sense of dissatisfaction throughout the Dominion. In spite of these disadvantages British Columbia has a brilliant future; it has only been really accessible since the opening of a Canadian Pacific Railway in 1885, yet already has 200,000 inhabitants. Thanks to the Trans-Canadian Railway and a service of fast steamers connecting Victoria with Nagasaki and Shanghai this route is to-day one of the most frequented of the world. Thus among the countries in the Pacific where the British flag flies are several already very prosperous, or on the way to become so—the older colonies, on the other hand, are now autonomous political organisations, and so weak are the ties which bind them to the Empire that it is almost a question whether they are not more of a burden than an advantage to the Mother Country.

Mr. Chamberlain and the Imperialists, however, take a different view; they dream of uniting all the colonies in an Imperial union and of federating them so as to oppose foreign competition. It has been reported that Mr. Chamberlain intends making a voyage to the Antipodes to try and convert the Commonwealth and New Zealand to his way of thinking.

At present, however, the aspect of affairs is not encouraging for the realisation of these fine dreams; on the contrary, the spectacle before our eyes in the Pacific is rather that of a disintegration of the different portions of the Anglo-Saxon family, which is daily becoming more noticeable. . . .

British trade is, moreover, being undermined throughout the Far East by the successful competition of the United States, Japan, and Germany. In spite of all her efforts England has much difficulty in struggling with all her rivals in China. In Manchuria and in Korea she is almost entirely supplanted by Americans, Japanese, and Russians; in the Philippines she has been forestalled by the United States; and in the islands of Polynesia by the Germans. . . .

The alliance with Japan, if one searches for deep motives, looks like a desperate attempt to stem the tide of Russian progress in Northern China and to maintain the "open port" in the Middle Empire; but in strengthening the position of Japan in the Far East, in furnishing her with the means of developing her internal resources,

in giving her by the alliance the right of being included among civilised Powers, is not England with her own hands conducing to the prosperity of her most dangerous rival? The future alone will show this, and England seems to be already uneasy, judging by her efforts to soothe the warlike aspirations of her ally.

PART V.

GERMANY—HOLLAND—FRANCE.

Germany is a newcomer in the world of the Pacific, receiving a portion of the heritage left by decadent Spain. The history of German expansion in the great ocean is as remarkable as its progress was rapid; her trade has, in fact, preceded her colonies, and she has powerful influence in the Pacific and Far Asia without owning hardly a particle of territory. She has, however, endeavoured to acquire some harbours as victualling ports and coaling stations for her trading steamers and cruisers and as bases for her trade. Thus in 1885 Germany exercised authority over six groups of islands—viz., the Bismarck Archipelago, the Marshall Islands, part of the Solomon and Samoan Islands, the Carolines, with Palaos, and the Marianne Islands, with the exception of Guam, which belongs to the United States. In addition, Germany has acquired the north-eastern portion of New Guinea, which they call Emperor William's Land, where about 60 Europeans govern about 110,000 Papuans, costing the Imperial Budget 732,000 marks a year, and only bringing in barely a revenue of 75,000 marks. Apia, in the Samoan group, occupies a favourable position on the route from Australia to San Francisco and Panama. The Carolines and Marianne Islands, equi-distant from Japan, Australia, and the Philippines, would constitute a very useful observation post for the German Fleet in case of a conflict in the Far East. The opening of the Panama Canal cannot fail to increase their importance. With Kiaou-Chaou, on the coast of China, Emperor William's Land, and Samoa, a belt of German influence is stretched across the inhabited portions of the great ocean; in any case, these possessions suffice to afford Germany sufficient ground for demanding a share in the affairs of the Far East and for participating in any profits that may thence arise. In spite of American competition, German commerce has not stopped spreading, thanks to her excellent merchant service; although her colonies may only bring in a moderate revenue, yet they are wonderfully skilful in extracting profit from the possessions of other Powers. In Tahiti, in the Philippines, in Japan, China, and Dutch Malaysia, and even in the British Isles, the article "made in Germany" is spreading and ousting its rivals. Through her commerce and possessions Germany is far from being a secondary Power in the Pacific, but to have more political power further territorial possessions are needed.

HOLLAND.

What the Germans lack the Dutch have; they have established a vast tropical colony in Malaysia, of which Java is the centre, and of which a large portion is still untouched and even unexplored; quietly, patiently, and with the tenacity of his race, the Dutch-

man has gradually taken possession of and organised this huge territory. . . . .

The Dutch, however prosperous their colonies may be, do not seek to extend them or to spread their commerce throughout the Pacific; the necessary resources for such are not forthcoming, either from a military or financial point of view, and it is even a question whether the ownership of their colonies will not one day be disputed by some audacious neighbour. The Japanese talk openly of annexing these beautiful islands, which they regard as easy prey. It is dangerous for a small nation, ill-equipped and surrounded by powerful rivals, to retain a rich colony, larger than the national resources are capable of supporting. Islands big as continents, lying uncultivated and undeveloped through want of men and money, offer a very tempting bait in these times to nations that are eagerly on the look-out for new channels of expansion. "Right without might" may one day not be sufficient safeguard for the Dutch colonies in the Far East.

France.

France does not aspire to a prominent part in the struggle for the command of the Pacific, but she has possessions, interests, and claims there that she cannot give up. At the moment when the Panama Canal is about to be completed (and it must be remembered that this might have been a French undertaking), and when renewed vigour will be infused into the trade of the Pacific, it is no mean advantage for us to possess such an almost obligatory port of call on the highway of the great ocean as Tahiti, and such land rich in mineral and agricultural produce as New Caledonia; therefore the time has come for us, not only not to give up our distant possessions, but, on the contrary, to organise them, put them into a state of defence, and make them self-supporting. New Caledonia, by its size, situation, wealth, and population, is the natural centre of French possessions in Polynesia.

In 1894 a transport disembarked some French troops in the New Hebrides, but the Australians were so indignant and made such strong representations to the British Government, that our Minister of Marine hastened to give the order for the troops to be re-embarked. Since then the question of the New Hebrides has remained stationary, but Australia has brought a certain amount of influence to bear, and our settlements have been gradually reduced. An Australian commercial company has been established, and, thanks to an annual subsidy of more than 300,000 francs, started a regular monthly service of good steamers between the islands and the continent, and has succeeded in absorbing the greater part of the traffic. What are we doing on our part to maintain the struggle? The French Company of the New Hebrides has been in liquidation for two years past in spite of a subsidy which the French Government guaranteed for 15 years; the regular service between Noumea and the Archipelago has been suspended for some months now; the company is powerless to revive it, and the Government dares not enforce it or impose fresh sacrifices to secure the service by other means. Negotiations with the Messageries Maritimes Company for one of their auxiliary steamers to touch at two or three of the principal places in the Archipelago have not been concluded, and it is a matter of fact that the sole con-

nection between New Caledonia and the New Hebrides is maintained at their own risk by a Bordeaux firm (Maison Ballande). The British Governor of the Fiji Islands has been for a long time past High Commissioner for the New Hebrides, while it was only a few months ago that the Governor of New Caledonia received the same title and the same rights. Finally, the English have considerable influence, thanks to the Protestant mission settlements in the islands; each missionary receives a salary of 12,000 francs a year with an additional thousand for each child; he enjoys regular holidays, and is assisted by native teachers, who also receive a stipend; all the influence of the Government is at the disposal of these useful agents of British expansion! What can a few Catholic missionaries do in competition with such an organisation in spite of all their devotion and patriotism, seeing that they live on from 700 to 800 francs a year and are frequently thwarted in their work by the inconsiderate action of certain French Governors? . . . . .

"Tahiti the delicious," can it still be called a French colony? This is unfortunately a question that can hardly be answered in the positive. True the Tricolour flies over Papeete, our officials administer the island, and nearly 300 French live there; but the trade is slipping out of our hands, and more and more are American capital and influence being substituted for ours. To-day France does not own one-sixth part of the total trade of these islands—the last big French firm has closed its shutters, a few lesser ones still exist, but most of these conceal foreign capital under French names; all the commerce is passing into the hands of America, Australia, and Germany. San Francisco, Auckland, and Sydney are the nearest of the chief points from Papeete, and it is therefore natural that Tahiti should have frequent intercourse with them. But distance from the Mother Country is not the chief reason of this commercial depression; the success of German firms is a standing contradiction to this. Competition by our compatriots would be possible were there direct means of communication between Noumea and Papeete, but the sole means of communication at present are from Auckland by the Union Steamship Company, and from San Francisco by the Oceanic Steamship Company, which lines not only get substantial subsidies from their respective Governments but raise even from French sources the one an income of 150,000 francs a year and the other 12,000. On several occasions attempts have been made to start a French line; negotiations opened with the Messageries Maritimes proved abortive; our Government recently decided to start a service of sailing ships between Noumea and Papeete. The idea was a good one and practicable. A French firm undertook the contract, but just when everything was on the point of being concluded the Colonial Minister imposed such conditions that the arrangements were broken off and have not been reopened. The real cause of the ruin of French trade in Polynesia is to be found in this deplorable state of affairs. Paris, the city in the world where mother-of-pearl is most used, buys the produce of Tahiti in London! . . . .

However, Tahiti, situated as it is in the centre of the Pacific, on the highway from San Francisco and Panama to New Zealand and Australia, occupies a position which renders it almost indispensable to whoever aims at being the supreme Power in the great ocean. Papeete and Pango-Pango are obligatory ports of call between America and Australasia. The latter belongs to the United States, and it

behoves us to take care that the former does not also one day fall into their hands. . . .

Can we at any rate count on an adequate garrison in Tahiti for maintaining French authority? It is barely credible, but just the time, when the International importance of even the smallest of the islands of the Pacific is increasing, and when all the Powers are concerned in establishing naval bases there, has been precisely the moment when the French Chamber decided on the disarmament of Tahiti! One hundred marine infantry, a third of a battery of artillery, a detachment of engineers, etc., were little enough, but the Chamber, on receipt of Mons. Messimy's report, have decided on only leaving a section of infantry on the island and of removing the rest to Noumea, where all the means of defence will be concentrated. This measure would have been explicable if Tahiti were liable to attack by a whole squadron and subsequent landing of numerous troops, and if it were really a fact that 10,000 men at least were required to defend it properly. But Tahiti is too isolated to be attacked by large forces or blockaded for a long time; it would only be taken by one or two ships probably, knowing it to be defenceless they might make a sudden raid. A scheme for defensive works commanding Papeete and its harbour, which with a few guns would have sufficed to forbid any attempt of this sort, has been drawn up and even sanctioned at headquarters; these fortifications and the equipment required to arm the inhabitants, European and native, would have cost a million; France has preferred, for the sake of a paltry economy, to abandon her colony to the mercy of the first hostile cruiser.

CONCLUSION.

Such are the present interests and future problems involved in the Pacific Ocean, whose vastness alone was thought at one time to preclude all chance of war. It is not a question, as in former times, of petty trade alone and of mere quarrels between merchants. The vital interests of great Powers are now at stake; in fact, the maritime supremacy of the world! Japan struggles for expansion and for her very existence as a nation. Russia is attracted by the necessity for providing her immense Asiatic territories with the maritime outlet she cannot do without. Great Britain will fight for her naval pre-eminence and commercial supremacy. The United States are pushing forward with that eagerness for expansion which characterises a young and successful race. The wily and laborious Chinese quietly pervade all the countries at their gates, and "oil the machinery" from Singapore to San Francisco. Germany, France, and Holland defend their colonies and demand their share in the development of the wealth of the Far East. Such problems have seldom been solved pacifically.

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Whatever happens, the conclusion drawn from these pages is that great events are impending, and that the great Powers of the future will be developed in the world of the Pacific.

History is taking unexpected turns in this antipodean theatre of war, and the old conditions of the problem of preponderance are being upset. The House of Austria does not appear on this scene, nor Turkey, nor Italy, nor the ancient feud between Christian and Mussul-

man. Spain has disappeared from the arena. Germany and France are still represented, but only in the background, and hardly in the same category as Holland.

The Anglo-Saxon still plays a leading part, but it is no longer the inhabitant of the United Kingdom, but rather the new representatives of the Empire in the person of the Australian and Canadian. The foreground of the theatre will undoubtedly be occupied by the two giants Russia and the United States, unless they are compelled to give way to the audacious and irrepressible "Yellow man," the Japanese, and possibly also the Chinese as well.

THE FIRST YEAR OF THE WAR.[1]

A RUSSIAN CRITIQUE OF THE PRESENT SITUATION BY SEA.

Compiled and Translated from the "Russian Gazette" by Lieutenant W. H. BINGHAM, 69th Punjabis.

IN the study of the Art of War it is often useful to learn how not to do things, and in this respect there are undoubtedly many and valuable lessons to be drawn from the Russian side.

As a nation we enjoy and view with legitimate pride the most complete organisation of our own war correspondents, artistic and otherwise, in the camps of our Allies, giving us vivid pictures of their efficiency and perfection. We are no less fortunate in the possession of the talented military critics of our greatest and lesser London dailies, who piece together and issue brilliant commentaries on the war news. But however gratifying this may be, a close acquaintance with the current military criticism published by both sides cannot but be indispensable to an intelligent study of the tactical and strategic lessons of the war, and the formation of sound and scientific deductions. Russian military critics, when intelligent, have of course three main and important conditions to fulfil; an intimate knowledge of Russian character; an instinctive insight into the inner workings of the censor's brain; and the skill born of long practice in the decipherment of official Russian despatches, in knowing how much to accept, how much to reject, and when to infer the reverse of what is stated. The present critique is selected from the leading naval and military expert commentary of the progressive Russian Press. For a candid admission of error, and a clear and incisive analysis of present and forthcoming events, it affords, if no more, at least an instructive comparison with the productions of French, German, and our own naval and military literature on this war.

A Year of War.

8th February, 1905.—To-day completes exactly a year from the time of the first shot fired against Japanese torpedo-boats in the harbour of Chemulpo by the "Koryéetz, and thus of the actual commencement of war by Russia against Japan. Up to the present this war has shown itself to be the most grievous and luckless ever waged by our fatherland since the Great Northern War of 1700-1721. Up to last year there had never been a war in the history of Russia during the dynastic period, signalised for the course of a whole year, by such an unbroken record of heavy defeat, failure, and disillusionment. The naval campaign in particular for the first year has concluded with a catastrophe unheard of in history since Trafalgar—the complete annihilation of our Pacific fleet. And yet, notwithstanding

[1] This article was in type before the news of the latest movements of Admiral Rozhestvenski's fleet was received.

the disaster of 9th February, 1904, resulting from the unexpected attack of the Japanese on our Port Arthur Squadron, the naval campaign in actual fact began under conditions favouring our fleet rather than Japan's. Our Pacific and Baltic fleets, taken together, far exceeded in strength the comparatively small fleet of the land of the Rising Sun, and they were separated by a distance accomplished by merchant-vessels in some 40 days. This apparent numerical superiority of naval strength on the side of Russia was the cause of that light-hearted conviction of victory which indiscriminately held sway over us during the first months of the war, when we dreamt only of landing our Army on the shores of Japan. But in order to attain this victory we did practically nothing, or, more correctly, steadfastly and without fail came in too late everywhere and at every point. We were at a loss how to effect the junction of the Baltic and Pacific fleets, and the forty days' passage turned out an insurmountable obstacle for us. At the outset of the war great hopes were placed in the squadron of Admiral Viranioos, whose arrival in Port Arthur was to decide the balance between the hostile fleets in our favour. But the squadron of Admiral Viranioos, after spending nearly five months on the passage from Cronstadt to the Indian Ocean, turned from Jibuti, instead of towards Port Arthur, homewards. Then, after the death of Admiral Makaroff, began the concentration of the 2nd Pacific Squadron, under Admiral Rozhestvenski, which was to have relieved Port Arthur, smashed up the Japanese fleet, after which the Army of General Kuropatkin could menace, in the visions of our Jingoes, the very palace of the Mikado. Our squadron took nearly eight months to get together, and after four months afloat only got as far as Madagascar, coming to a halt 6,500 miles from its destination, while our Pacific fleet, during this time, was already annihilated. The slow pace of our Baltic Squadron, whose average speed works out to a total of 3 knots (3½ miles) an hour, was rendered dependent on a number of by no means indispensable considerations. For some reason the squadron had to drag after it a multitude of torpedo-boats, old, unseaworthy vessels, almost devoid of fighting value, and crawling transports. This useless ballast sorely delayed the squadron, both in fresh water at sea and in ports where they were continually having to put in for repair. No attempt was made to substitute oil fuel for coal, although no radical change in the boilers would be required for this. If the squadron, consisting of 5 first-class battle-ships and 4 new cruisers, which were all ready at the beginning of autumn, had moved out of Libau in September, it would have been possible, if desired, to reach Port Arthur, doing from 14 to 15 knots, in 6 weeks, *i.e.*, by the end of October, when our fleet in Port Arthur was unsunk.

We placed (and still continue to place) great hopes upon cruiser operations; but instead of the exhaustion of Japan, all that this war has led to is the loss of our own cruiser fleet, of which all that now remains fit for action, in Vladivostok, is one cruiser, the "Russia" ("Rossia"). Cruiser operations in the Atlantic and Indian Oceans, more than once all but leading to war with England, have concluded by our being obliged to give up all the prizes we seized, and renounce the right of carrying on cruising operations in these oceans. And what a number besides of unfulfilled hopes and sanguine expectations does this year not record! Submarines and benzoline launches amongst them, destined to send to the bottom the giant battle-ships of Admiral Togo, dangerous fogs and gales, rendering the navigation of the Sea of Japan and the Yellow Sea impossible, something like the

whole year round, deterioration of Japanese ships and guns from the long campaign, etc. Upon the evidence of so authoritative a sailor on this subject as Captain Klado, the Japanese fleet is in even better form than at the commencement of the war, the guns and boilers having been repaired, and in part newly replaced. Even the material losses of the Japanese fleet for the year of war are comparatively inconsiderable (1 line-of-battle ship, 1 large, 1 small armoured cruiser, 2 coast-defence ships), and in any case Japan's position at sea at the present moment is far safer than a year ago. Even if only to compare forces with Admiral Togo, who reckons 13 battle-ships and large armoured cruisers, it would be insufficient for us to move our whole Baltic Fleet on to the theatre of war. Admiral Rozhestvenski now has 7 battle-ships; at Vladivostok, 2 cruisers; and in the Baltic, 3 battle-ships of the line, the "Glory" ("Slava"), "Alexander II.," and "Nicholas I.," so that altogether on the three oceans we have 12 first-class battle-ships; the coast-defence battle-ships (3 of the "Sinyabeen" type) and semi-armoured frigates, 3 in number, "Admiral Nakhimoff," "Memory of Azoff" ("Pamyat Azova"), "Demetrius of the Don" ("Dmitri Donskoï"), and "Vladimir Monomakh" are practically useless at sea. Besides that, the whole Baltic Fleet cannot assemble at Madagascar earlier than July, and the appearance of Admiral Rozhestvenski on the scenes at Vladivostok, with the full complement of our fleet is not to be expected before September. The Japanese have thus got another 7 months before them to gird up their loins, and make thorough-going preparations for the meeting with out fleet. And if the success of Japanese arms on land continues as brilliant as hitherto, there will be reason to fear that Admiral Rozhestvenski may once more be too late, and find Vladivostok already hemmed in on land by the Japanese Army.

The position is so serious that more far-seeing people are already beginning to think of reckoning with Japan on the sea, not now, but even some years hence, when the new grand fleet is ready, the construction of which is now projected. According to various newspaper accounts, the enormous sum of £42,553,191 (400 million roubles) has been assigned by our Supreme Naval Administration for the construction of new ships, and it is presumably proposed to build from 6 to 8 line-of-battle ships, 4 to 6 armoured cruisers, and half a score of improved "Noviks," not to mention a whole shoal of torpedo-boats, submarine and otherwise. To complete such a programme sooner than from four to five years is impossible, even if all the ships are ordered abroad, and there is no ground for supposing the war can last so long. Besides, Japan, too, is not dozing. In addition to the two line-of-battle ships now under construction in England, and three armoured cruisers in Japan, the Japanese Government, according to advices from Tokio, has entered upon a complementary ship-building programme. In this programme is reviewed the construction of 3 gigantic battle-ships (1 of 19,000 tons, and 2 of 16,000), 1 armoured cruiser (12,000 tons), and 2 large protected cruisers (5,000 tons each). With the completion of this programme the Mikado's fleet will consist of 10 line-of-battle ships, 12 large armoured cruisers, 8 large and 11 small protected cruisers, 4 coast-defence ironclads, and 2 armoured gun-boats—a total of 47 armoured and protected ships. In other words, Japan is preparing to double her fleet. If the Japanese, contrary to expectation, succeed in raising and repairing part of our ships sunk in Port Arthur (3 battle-ships and 2 cruisers are reckoned fit to be raised), the Japanese fleet, with a complement of 52 armoured

and protected ships, will occupy an uncontested position of supremacy in the Pacific Ocean. The first year of the war has left us a serious problem—the acquirement of supremacy at sea! What has the second year of war, now begun, in store for us?

11th February, 1905.—The commencement of the naval campaign of 1905.

1. On the 6th February Admiral Togo hoisted his flag on the line-of-battle ship "Mikasa," and sailed for the Pescadores; Japan has completed her preparations for the encounter with out Baltic Fleet, and the naval campaign of the second year of war may be considered as now opened. It may now be surmised with sufficient confidence that Admiral Ito (the Chief of the Japanese Naval General Staff) has finally decided on the plan of meeting our squadron in the waters of the Malay Archipelago, and given up the idea of an attack on the squadron of Admiral Rohzestvenski near Madagascar. In the waters of the Bay of Diego-Garcia, apparently, only two Japanese ships have been observed, auxiliary cruisers, which soon turned back. In all probability this was the same scouting commission which were further observed in Singapore at the beginning of December, and in the middle of January off the western shores of Sumatra. If it is borne in mind that during the second half of December the wireless apparatus on the British cruiser "Forte," cruising between Madagascar and Mauritius, recorded several messages in the Japanese cipher, we may presume that these two Japanese auxiliary cruisers (the "Hong-Kong-Maru" and "Nippon-Maru") proceeded to the Bay of Diego-Garcia from Singapore, from there went down south along the Madagascar coast as far as the heights of Mauritius, and then turned back to Sumatra through the same Bay of Diego-Garcia, examining the western coast of the former up to the Straits of Sunda; this course, amounting to 8,500 miles, could be easily managed by Japanese cruisers in six weeks (200 miles a day inclusive of stoppages). The reconnaissance of the Indian Ocean has in all probability shown the Japanese all the difficulties of a passage across the ocean, and the prosecution of war 5,000 miles from their base, for which reason the decision was come to to give up the expedition to Madagascar.

In previously discussing the subject of the impending naval operations of Admiral Togo last December we expressed the opinion that only one factor of especial importance suggests the probability of the appearance of the main body of the Japanese Fleet in the Indian Ocean: the necessity to the Japanese of taking the initiative in active operations in order to avoid witnessing the unobstructed reinforcement of our fleet. The attempt to beat our fleet in detail before the arrival of the late 3rd (and now 2nd) Pacific Squadror at Madagascar must of course be alluring. And yet the Japanese have already let Admiral Felkersam effect a junction with the main forces of Admiral Rozhestvenski's squadron. In exactly the same way there are no signs pointing to the intentions of Admiral Togo to interfere with the junction of Captain Dobrotvorski's command with Rozhestvenski, the former having left Jibuti for the south on the 4th February. From Jibuti to Nossi-Bé, on the west coast of Madagascar, where the squadron of Admiral Rôzhestvenski lies at anchor, is 2,500 miles, and our command (under Captain Dobrotvorski), at its normal rate of motion up to date (120 miles daily), could cover the distance in three weeks. Consequently the junction of Captain Dobrotvorski's division with the main body of our squadron could be effected by the 12th February. If Admiral Togo has not availed himself of the

opportunity of interfering with the union of the commands of Admiral Felkersam and Captain Dobrotvorski with Admiral Rozhestvenski's squadron, we must also conclude that Rear-Admiral Niaybogatoff's (whose departure for some reason has been once more delayed) division, forming the first detachment of the (formerly) 3rd Pacific Squadron, will succeed in joining Admiral Rozhestvenski without hindrance. On the run (8,500 miles) from Libau through the Suez Canal to Nossi-Bé, Rear-Admiral Niaybogatoff ought to take, to judge by the rapidity of movement of Rear-Admiral Felkersam's division (100 miles a day), about 85 days, so that if Rear-Admiral Niaybogatoff's division leaves Libau on the 14th February, its arrival at Madagascar may be expected about the 9th of May. If Admiral Rozhestvenski then decides to await the appearance of the second instalment of the (late) 3rd (now 2nd) Squadron of the Pacific, which may leave Cronstadt, if the *Times* is to be trusted, about Easter, *i.e.*, 30th April, then the whole Baltic Fleet will be assembled in the waters of Madagascar about the end of July. From Madagascar to Singapore by the shortest way is 3,400 miles; for the passage of this distance our armada will want at least a month, so that the appearance of our fleet on the scene in Pacific (?) waters may be expected not earlier than the second week or middle of September, *i.e.*, another 7 months from now. Hence, our Reserve Baltic Fleet in all likelihood will only turn up at the theatre of war 19 months after its outbreak.

This extreme dilatoriness of concentration for the passage of our Baltic Fleet and movement of our squadrons clearly appears to be the principal cause of the possibility and ability of the Japanese fleet to confine itself to purely waiting tactics, and avoid an exhausting and dangerous cruise in the Indian Ocean. Instead of the 14th December, 1904, as foretold by our Press last September, as Admiral Rozhestvenski sailed from Libau, the Admiral evidently will not get to Vladivostok before 14th October, 1905, and this 10 months' breathing time before the decisive encounter gives Japan the possibility of counter-balancing the reinforcements sent to Admiral Rozhestvenski by the despatch of new ships, under completion or already completed in Japanese dockyards, to Admiral Togo.

The Tokio correspondent of the *Times*, as a rule well informed, gives most important news on this matter. In his words, two new armoured cruisers, which have just completed their armament, have left to join Admiral Togo's squadron. These two cruisers, built under the 1903 programme (as detailed in our Naval Intelligence Handbook for 1904, published by the Grand Duke Alexander), and laid down two years ago (in February, 1903), form formidable battle-ships, armed with 12 heavy guns (including four 10-inch, two 6-inch, and six 3-inch) and protected with thin armour (evidently not over 4 inches), but as this armour is supplemented by a second thick armour deck (about 3 inches) these cruisers are better protected than our old armoured cruisers (of "Demetrius of the Don" or "Admiral Nakhimoff" type), and quite as well as the "Russia." The chief peculiarity of these new cruisers lies in their unusually high speed for armoured vessels (24 knots projected, and, according to the reports, are supposed to have reached 25 knots at the trials); these vessels thus appear by way of being armoured "Noviks," with heavy artillery, allowing them to successfully give battle to our armoured cruisers. Together with these two cruisers the effective strength of the Japanese fleet will amount to 15 first-class fighting vessels (5 battle-ships, 10 armoured cruisers), to which Admiral Rozhestvenski can oppose 7 line-of-battle

ships; Admiral Yiessen, at Vladivostok, 2 armoured cruisers; and Admiral Niaybogatoff, in Libau, 1 line-of-battle ship. In August, with the arrival of our second instalment of the (lately) 3rd Pacific Squadron our fleet will reckon at the theatre of warlike operations, 10 line-of-battle ships (of which 4 are old) and 2 armoured cruisers, *i.e.*, 3 first-class fighting-ships less than Admiral Togo has. True, we shall have another 3 coast-defence battle-ships, 4 old armoured cruisers, and 7 protected cruisers in the Indian Ocean, so that altogether Admiral Rozhestvenski will have 26 large fighting ships. However, against these 14 second-class fighting vessels, Japan can oppose (not counting finally obsolete vessels and gun-boats) 1 coast-defence ironclad, 1 small armoured cruiser, 6 large and 10 small protected cruisers, *i.e.*, in all 18 second-class fighting-vessels. Thus, to the 26 large fighting-ships of our Baltic Fleet, Admiral Togo can oppose 33 armoured and protected vessels. The numerical balance, and a sufficiently heavy one, remains in favour of the Japanese Fleet, even after the Baltic Fleet with its full complement appears on the Pacific Ocean. That is why the Japanese can watch the reinforcement of Admiral Rozhestvenski's squadron and the equipment of the (formerly) 3rd Pacific Squadron with perfect composure. Japan's torpedo flotilla has already been increased by two new destroyers (each 380 tons and 29 knots) only just built in Japan, and by 10 submarines brought from America. With the further prolongation of the campaign, Japan will have still more significant naval reserves capable of completion by next autumn: 3 armoured cruisers of 11,000 tons, launched at Kure and Yokosuka last August, 12 torpedo-boats and 5 submarines brought over in sections from America, and at least 10 destroyers and torpedo-boats under construction in Japan itself. Lastly, the Japanese have already embarked on the salvage of our ironclads sunk in Port Arthur. According to a telegram of the *Russkoe Slovo* (a leading Moscow daily) from Chefu, pumping operations are already completed; under our luckless "Retvizan," which for some reason they could not manage to sink properly, caissons are already being placed. Surely our fleet has not been fated to witness the flag of the Rising Sun wave over the "Retvizan" and her sisters? Surely our 2nd and 3rd Squadrons, instead of fighting side by side with our 1st Pacific Squadron is not destined to fight against it?

2. In view of the crushing superiority of strength on the side of the Japanese Fleet, the appearance of our Baltic Squadron in the Pacific Ocean becomes less and less probable. Notwithstanding that, the Japanese have completed every preparation for the reception of our fleet with their accustomed carefulness. At the present moment the problems of the Japanese Fleet have two principal objects: firstly, not to allow Vice-Admiral Rozhestvenski's squadron to get to Vladivostok, by its overthrow far away from friendly shores; and, secondly, the maintenance of the blockade of Vladivostok. The blockade of Vladivostok is essential to the Japanese in two respects. The security of Japan's sea communications with the theatre of war by land and sea trade require the prevention of cruiser raids by Admiral Yiessen's flotilla. True, the probability of our Vladivostok cruisers putting to sea is infinitesimal, before all things in view of the insignificance of possible successes combined, as experience has shown, with great risk. For the blockade of Vladivostok, according to the information of the *Times* and *Daily Telegraph*, the Japanese have told off two fairly powerful divisions. The squadron of Vice-Admiral Uriu is cruising close to the Straits of Sangari, consisting of 3 armoured

cruisers and a division of torpedo-boats, and in the Straits of Korea is another squadron, which includes 1 second-class battle-ship, the "Chin-Yen," 3 large protected cruisers (of the "Matsushima" class), and a considerable torpedo flotilla. Vice-Admiral Uriu's squadron, without doubt, is far stronger than our Vladivostok Fleet, and the squadron cruising in the Korea Straits is approximately equal to our two armoured cruisers with Rear-Admiral Yiessen. Under these conditions of relative strength it becomes highly risky for Rear-Admiral Yiessen to attempt to put to sea. To go east to the Sangari Straits is impossible, for fear of collision with the fleeter and more powerful squadron of Uriu, and an exit south to Gensan and the Straits of Korea might bring with it Admiral Uriu's appearance at Vladivostok, and our cruisers would be subjected to the danger of being cut off from their sole haven of refuge. Admiral Uriu can easily cover the distance from the Sangari Straits to Vladivostok, a distance of 400 miles, in a day, doing 16½ knots, and on the return voyage from the Korea Straits to Vladivostok, Admiral Yiessen must spend nearly two days (a distance of 620 miles). Consequently the blockade of Vladivostok may be considered as practically established. By this blockade the Japanese, in addition to the security of their sea trade and communications, simultaneously attain another object — the capture of vessels chartered for Vladivostok by our Government.

But before Vice-Admiral Rozhestvenski can get to Vladivostok he will have to win a desperate battle in the waters of the Malay Archipelago immediately at the end of a fatiguing passage through the Indian Ocean. Admiral Togo, with the main forces of the Japanese Fleet (5 line-of-battle ironclads, 4 armoured cruisers, several small cruisers, and a large torpedo flotilla, according to the information of English papers, is cruising close to Formosa and the Pescadores. By itself the squadron of Admiral Togo is doubtless stronger than our whole 2nd Pacific Squadron under Admiral Rozhestvenski, and so our Admiral, if he has to get to the Pacific now, must naturally try to avoid a meeting with Admiral Togo. But how to manage it with Japanese squadrons and flotillas on every possible route to Vladivostok is a problem. If Admiral Rozhestvenski elects to take a circuitous route to Vladivostok, along the east coasts of Japan, on this route, close to the islands of Sin-kin (stretching from Japan to Formosa), is cruising Vice-Admiral Kamimura, with his squadron (3 armoured cruisers, at least 3 protected cruisers, and a division of destroyers). Close to the shores of Borneo, in addition, Rear-Admiral Shimamura's command (3 large armour-protected cruisers of the "Chitose" class, with a torpedo flotilla) had already been observed in December watching the eastern waters of the Malay Archipelago. In the Malay and Sunda Straits and adjoining parts of the Indian Ocean and Sea of Java cruises another division, composed of at least 3 large auxiliary cruisers, 1 small protected cruiser, 2 torpedo cruisers, and 11 torpedo-boats. With such a wholesale distribution of Japanese cruiser squadrons and divisions over the whole space between the Indian Ocean and Vladivostok, it is extremely hard for the multitudinous fleet of Admiral Rozhestvenski, which now numbers up to 68 vessels (7 battle-ships, 8 cruisers, 5 auxiliary cruisers, 10 torpedo-boats, 11 transports, and not less than 24 chartered coaling steamers) to slip through unnoticed. In order not to subject his ships to the risk of being surprised singly, Admiral Rozhestvenski will have to move with the whole of his ships in one enormous Armada. Spread out in single file this Armada would

take up from 15 to 18 miles in length. Of course, the relatively weak cruiser squadrons and detachments cannot venture on attacking our squadron. The most that can threaten Admiral Rozhestvenski in this line is a sudden night attack by swift cruisers on the tail of the Armada, as a rule formed by the transports and colliers. But the trouble is, that once our squadron is observed by Japanese cruisers it will be a hard job to escape Admiral Togo, who will of course at once get news of it by wireless telegraphy. Admiral Togo's squadron, consisting exclusively of new ships, and capable of doing not less than from 14½ to 15 knots at sea, has greater chances of catching up our Armada, whose composition includes transports, covering 10 to 11 knots an hour. The task of following up the course of our fleet and keeping Admiral Togo informed of any change of course by Admiral Rozhestvenski will be carried out by Admiral Kamimura's swift armoured cruisers, and, having no armoured cruisers at all, Admiral Rozhestvenski is powerless to drive them off from our squadron. The only chance of breaking through to Vladivostok would be for a fleet squadron (5 battle-ships and 6 cruisers out of the total of Admiral Rozhestvenski's ships), unhampered by old slow-coaches, torpedo-boats, and a whole cloud of transports. For Admiral Rozhestvenski's slow-going Armada, wiser far turn homewards.

A BRIEF HISTORICAL SKETCH OF THE IRISH INFANTRY REGIMENT OF DILLON AND THE IRISH STUART REGIMENTS IN THE SERVICE OF FRANCE, 1690-1791.

Continued from March JOURNAL, p. 307.

THIS sketch of the services of the Irish Stuart Regiments during the Spanish War of Succession would not be complete without a brief reference to the three Regiments of Clare, Lee, and Dorrington, and Sheldon's Regiment of Cavalry, which seem to have been attached during the whole war to the French Army in Germany; while Sheldon's was employed with the Army of the Rhine, under the Duke of Burgundy and the Marshal de Tallard, the three infantry regiments joined the Army of the Danube, under the Marshal de Villars.

The principal achievement of the Army of the Rhine, under Burgundy, in 1703, was the siege and capture of Brisach in the summer, which was followed by the investment of Landau by the Marshal de Tallard on 11th October, and its surrender on 18th November, after the defeat by the Marshal of the Prince of Hesse Cassel at the battle of Spire on the 15th of the same month, the Imperialists losing over 6,000 men with 60 colours, 30 guns, etc. In this battle the Regiment of Sheldon, although very weak, is mentioned as "s'étant distingué à la bataille de Spire," and as a reward, "il fut accordé une augmentation de traitement aux capitaines et lieutenants réformés qui servirent à la suite de ce corps."[1] Sheldon himself, who was wounded, was promoted to Major-General for his services on this occasion.

On 20th September of the same year, Villars having effected a junction with the Elector of Bavaria near Ulm, was fought what is known as the 1st battle of Hochstedt, when the Imperialists, who were commanded by General von Stirum, were completely defeated with a loss of over 8,000 men, all their guns, 22 colours, and their tents, baggage, etc. The reputation of the Irish Brigade was much increased by this victory, for to the energy and valour they displayed it was in a great measure due. Villars, in writing to Louis XIV., mentions how "l'on attendit que l'infanterie eût gagné un village, qui était dans le centre, pour marcher de front aux ennemis," and adds: "Les Irlandais, commandés par Milord Clare, l'avaient occupé, avec une ardeur de combattre que l'on ne peut assez louer." Count Arthur Dillon in his report wrote: "Le Régiment de Clare s'y distingua beaucoup. Ayant perdu, au commencement de l'action, 1 de ses drapeaux, il fondit, à l'arme blanche, sur l'ennemi, et le reprit, avec 2 autres drapeaux ennemis."

[1] O'Callaghan's History of the Irish Brigades in the Service of France.

The Irish Brigade does not seem to have taken any part during the earlier operations in 1704 of the Allied French and Bavarian Army against the Anglo-Dutch and Imperialist forces, under the command of the Duke of Marlborough and Prince Eugene but at the famous 2nd battle of Hochstedt, or Blenheim—its more familiar name to English readers—fought on the 13th August, 1704, the three battalions of Lee, Dorrington, and Clare were present, whose ranks had been strengthened in May by the arrival of 300 Irish recruits from France. By the "Instruction du Roi à M. le Comte de Marcin, 14e Octobre, 1703," it would seem that Louis, having a very high opinion of them, was particularly desirous to fill up, with their own countrymen, the Régiments Irlandais dans l'Armée d'Allemagne," — "Sa Majesté étant persuadée, que ce qu'ils pourront, ils le feront, et que ce qu'ils promettront, ils le tiendront!" An eulogism of the Irish Regiments by the French Monarch, the more valuable as expressed in a document not intended for the public eye.[1] The Irish Brigade, commanded by Lord Clare, formed a portion of the infantry, under the command of the Marquis de Blainville, stationed about the centre of the French position close to the village of Oberglau, and maintained their high reputation for valour and coolness on that disastrous day to the French arms. Attacked by eleven Hanoverian battalions, under the Prince of Holstein, who had orders from Marlborough to seize the position, the Irish troops drove the Hanoverians back with heavy slaughter, broke completely through the line of the Allies, and nearly achieved a success as brilliant as that which the Brigade gained later at Fontenoy. Advancing in their ardour too far, they were charged in flank by the English cavalry, and had to fall back again on their original position at Oberglau, which, however, they held firmly all day against the repeated assaults of the English and Dutch troops, until the order for retreat was given, when the place was evacuated, after being set on fire. Although the battle was lost, the Brigade, with the high discipline which always distinguished them, maintained their ranks unbroken in the midst of the universal rout of the rest of the Army, cut a passage for themselves through the enemy, effected their retreat to the Rhine without losing a prisoner or a colour, and covered the flight of the remains of the finest Army with which France had up to then invaded Germany, the Regiment of Clare particularly distinguishing itself by its heroic behaviour.

The operations in Germany during 1705, although entailing much arduous work in constant marches and counter-marches, did not apparently give the Brigade any further opportunities for distinguishing itself, and do not therefore call for notice. In 1706 the Brigade formed part of the Army commanded by the Marshal de Villeroy, and took its share in the disastrous day of Ramillies, fought on 23rd May, when the Marshal, who had replaced Tallard in the command, was utterly defeated by Marlborough. The Brigade, consisting of the Regiments of Clare, Lee, and Dorrington, was commanded by the Colonel of the first-named Regiment, Major-General Lord Clare, and with some newly-raised French battalions was thrown into the village of Ramillies, which, however, was too far from the rest of the French line for the troops to be properly supported; the position was nevertheless held against successive assaults by overwhelming numbers of the enemy, until further defence was impossible,

[1] O'Callaghan's History of the Irish Brigades in the Service of France.

owing to the utter defeat of the French troops in other parts of the field, when the Brigade, thanks to its fine discipline, retired in perfect order in the midst of the rest of the discomfited and routed Army, and succeeded in cutting its way out through the enemy's battalions, bearing down all opposition before them. The Regiment of Clare particularly distinguished itself, capturing two pairs of colours[1] from the English Regiment of Churchill, but they suffered heavily, their gallant Colonel, Lord Clare, being killed, while 38 officers and 326 men, out of a strength of 800, also fell.

The remainder of the campaign of 1706 in Flanders was a continual triumph for the English, all the great towns of Flanders falling into their hands, but none of the Irish troops were engaged in their defence. The disaster of Ramillies induced the French Council of War to transfer the Duke de Vendôme from Italy to the command of the Army in Flanders, and his arrival soon restored confidence in the Army, while the establishment of a formidably fortified camp between Condé and Lille stopped the advance of the English and Imperialist forces.

In 1707, Lee's and Galmoy's—the latter having been transferred with FitzGerald's (late Albemarle's) from the Army in Spain—were attached to Villars' Army on the Rhine, and took part in the storming of the celebrated lines of Stolhoven, the pride and boast of Prince Louis of Baden. Villars followed up this success by the overrunning of Baden, Wurtemberg, Swabia, and the Palatinate; in the autumn, however, the Imperialists having been strongly reinforced, and his own Army weakened by the withdrawal of troops to strengthen other quarters, he was again compelled to fall back on the Rhine, which, however, he succeeded in doing without sustaining any reverse. In Flanders, Vendôme, by a judicious system of tactics, completely disconcerted all the projects of Marlborough without himself being drawn into a battle, and in the "Ordre de Bataille" of his Army, the Irish Infantry Regiments of Clare and FitzGerald were in the 1st line with the Brigade of Piedmont, under the command of Brigadier Nicholas FitzGerald. Owing to the nature of the campaign, the Irish had no opportunities that year of adding to their laurels.

In 1708 the Regiments of Clare and FitzGerald were present at the battle of Oudenarde, a reverse to the French arms brought about by the ill-timed assumption of the supreme command by the young Duke of Burgundy. Vendôme, however, with a select rear-guard, which included the Regiments of Clare and FitzGerald, was able to successfully cover the retreat of the rest of the Army, and the next day inflicted a severe check upon a strong force sent forward by Marlborough to complete his "victory," driving it back with heavy loss, much to the astonishment of Marlborough and his Allies, who had looked upon the French as a beaten, broken, and flying Army, the fact being that the troops under Vendôme, far from being broken, had retired in perfect order. Subsequently Vendôme took up a strong position at Lovendeghem, forcing the Allies to give up any idea of invading France.

In 1709 the campaign in Flanders was carried on for some time with varying success; Marshal Villars had been appointed to the com-

[1] These colours were presented to and suspended in the Church of the Irish Benedictine Nuns at Ypres. "A Memoir of the Irish Brigade in the Service of France," by M. O. Connor.

mand of the French Army in succession to Vendôme, but considerable difficulty was experienced in maintaining the French troops in the field owing to the exhausted state of the King's Treasury, while the Army assembled under Eugene and Marlborough was far more numerous, better equipped, and flushed with the hope of invading France itself. During the summer the Allies laid siege to Tournay, which on the 3rd September capitulated, and an advance was then made on Mons, but before investing it Marlborough found he had first to give battle to the French, and on the 11th of the month was fought Malplaquet, the bloodiest and most hardly contested battle of the war, which, although claimed as a victory by the Allies, was won at so great a cost that it left them completely exhausted and their strength paralysed.

The Irish Brigade on that day consisted of the five Regiments of Clare, Lee, Dorrington, FitzGerald, and Galmoy, and they bore the brunt of most of the fighting near the French centre. The battle raged with great obstinacy, varied fortune, and a frightful carnage, particularly of the Allies, until late in the afternoon, when the Marshal de Boufflers—Villars having been badly wounded earlier in the day—finding his position no longer tenable, withdrew his forces in good order towards Quesnoy and Valenciennes, carrying off all his guns, some 80 in number, except 14, which had been dismounted, and 24 colours and 8 standards, captured from the Allies; but while the French had some 10,000 placed *hors de combat*, that of the Allies was more than double, viz., 20,316. Of this number 8,000 were Dutch, who lost half their strength on the field. The Irish behaved with their usual intrepidity, 83 of their officers being killed and wounded. The Allies, thoroughly exhausted by the long day's fighting and their heavy losses, made no attempt at pursuit, and suffered the French to draw off unmolested.

The war dragged on for another three years in Flanders, being terminated by the signing of the Peace of Utrecht in April, 1713, no great success being achieved on either side. The Irish Brigade remained under the command of Villars until the end, and they accompanied the Marshal to South Germany, taking part in the series of successful operations, which resulted in the final defeat of Eugene, the Emperor, as already related in a previous chapter, having refused to accede to the peace concluded by his Allies with France, hostilities being finally brought to a close by the signing of the Treaty at Rastadt on 6th March, 1714.

Numerous reforms were introduced into the Army during the years following the signature of Peace at Rastadt.

In 1715, in accordance with a Royal Decree of 30th January, the Regiment of Galmoy and half the 2nd Battalion of the Regiment of Berwick were incorporated with Dillon's, which was raised from twelve to fifteen companies of forty men. All the officers not retained under the new organisation were placed on half-pay.[1] By an ordinance of 21st January, 1716, the strength of the companies was reduced to thirty men, being raised again in 1725 to forty men. In 1718, at the request of the Colonels of the three oldest Irish Regiments, the right of levying four deniers a day on the gross pay of

[1] At this date, owing to the number of Irish officers on half-pay, so-called "brigades" of officers were formed, who were stationed in the different fortresses ("Observations historiques présentées à l'Assemblée nationale par Arthur Dillon." Bibliothèque nationale).

each soldier was abolished. In exchange, a pension under the form of an annual allowance of 2,700 livres was granted, although this amount was far from being an equivalent of the suppressed right; some three years later the allowance was consequently raised to 4,700 livres.

In 1721 the Regent, having revived the rank of "Colonel-Général" of Infantry in favour of his son, the Duke de Chartres, the Colonels of regiments resumed the old title of "Mestre de Camp"; but on the 8th December, 1730, the Duke having resigned his position, the rank of "Colonel-Général" was once more allowed to lapse, and the heads of regiments received again the title of Colonels.

On the 1st May, 1730, Count Dillon handed over to his eldest son, Charles Dillon, his proprietary rights in the Regiment; the latter at that time was only twenty-nine, but he had served under the colours of Dillon since he was fourteen, and had been made a captain at the age of seventeen.

In 1733 war again broke out between the Emperor and France, the cause of the quarrel being the succession to the Throne of Poland, and Dillon's arrived at Strasburg in the early days of September of that year to join the Irish Brigade forming part of the Army under the command of the Duke of Berwick. The other Regiments forming the brigade were those of Clare, Bulkley, Ruth, and Berwick, and the Brigadier was Major-General Lord Bulkley. The French crossed the Rhine on the 14th October, and siege was immediately laid to the fortress of Kehl, which surrendered on the 28th of the same month. Winter with heavy rains setting in early, no further advance was made by the Duke that year into the enemy's territory. Before going into winter quarters the Army was reviewed by the Marshal Duke, who took the opportunity of paying a high compliment to Dillon's; stopping in front of the Brigade, he turned to the Prince of Tingri-Montmorency, who was accompanying him, and said, pointing to that distinguished Regiment: "Dans une affaire, on pouvait le tuer, mais jamais le battre."

In 1734 the Brigade joined the force concentrated for the summer operations at Bischviller, under the command of the Marshal Duke de Noailles. Passing the Rhine towards the end of April, the Marshal, on the night of the 4th May, attacked 12,000 Austrians strongly entrenched in the lines of Ettlingen, a position extending from Keppfemberg, near Ettlingen, along a succession of heights reaching to the small village of Mühlberg, close to the Rhine, driving them out with comparatively small loss to himself. In this action Lieut.-Colonel Gérard Lally, of Dillon's, who led the attack, was severely wounded, and was being carried off by the Austrians, when he was rescued by a furious charge made by some of his men, headed by his son, Arthur Lally, a captain in the regiment. Noailles' forces next joined the Army under the Duke of Berwick, who, moving in the direction of Heilbronn, forced Prince Eugene back across the Neckar. He next proceeded to invest the important fortress of Philippsburg, which was well supplied with artillery, ammunition, and provisions, and garrisoned with a force of some 5,000 Imperialists. Ground was broken before the fortress on the 3rd June, which surrendered on the 18th July. This siege caused the French the loss of the gallant Duke of Berwick, who, while visiting an exposed part of the works on the morning of the 12th June, was killed by a cannon ball, which carried off his head. The Marshal Duke left behind him a most brilliant military reputation,

ERRATUM.—DILLON REGIMENT.

Delete last sentence, page 449, April No. :—
"At the end of the year broke out," etc.

and of the great military leaders of his time he may be ranked, with his uncle the Duke of Marlborough, as among the first, and although his whole career was passed in the service of France, yet England, as his birthplace and as his father's country, may claim some share in his glory. The operations of the siege were carried on by his successor in the command, the veteran Marquis d'Asfeld, who, although obliged to protect himself by strong defensive works against Prince Eugene in his attempt to raise the siege, yet at the same time pressed the beleaguered fortress with such vigour that the Commandant, Count von Wütgenau, was forced on the 18th July to capitulate. The trenches were in the main manned by the Irish Brigades, and the Regiments of Clare and Dillon were specially referred to in the despatches to the King for their distinguished conduct, Dillon's having 240 men placed *hors de combat*.

The campaign of 1735 in Germany, the last of this short war, was more one of marching and counter-marching on the part of both the French and Imperial Armies than of actual fighting. Clare's and Dillon's—once more completed to full strength by the arrival of recruits from Ireland—were the only two Regiments of the Brigade employed this year with the Army in Germany, the other three having been sent to Flanders. "The Irish Regiments" (Clare's and Dillon's), writes a contemporary historian, "bravely secured the retreat of the French Army out of the Empire, although closely followed by the brave Count Seckendorff, who did his utmost to cut off their rear, but was as bravely disappointed by the intrepid behaviour of the Irish." Peace was concluded with Austria in November, and Dillon's went into quarters at Arras.

In 1736 Colonel Count Charles Dillon, the head of the family, had to return to Ireland to protect the interests of himself and his family in that country. At his death in London in November, 1741, his brother, Major Henry Dillon, who had served in the Regiment since 1716, was appointed to succeed as its Colonel and proprietary chief.

In 1741 the effective strength of Dillon's was increased. In November, 1737, the Chevalier Guaydon became Lieut.-Colonel, and in his MSS diary of the doings of the Regiment makes the following melancholy reflection:—"Le Sieur MacDonaugh, Lieutenant-Colonel ayant pris sa retraite, je montai à sa place après une constante attente de quarante-six longues années.

Le Régiment a perdu depuis quarante-huit ans qu'il est en France, aux environs de six mille soldats et des officiers plus qu'à proportion. Il était de seize cents hommes et cent vingt officiers lorsque je fus fait Enseigne-Colonel (1692) et, d'un corps si considérable, il ne reste aujourd'hui que moi seul."

At the beginning of 1742, England and Holland, openly siding against France in the War of the Austrian Succession, all the Irish Regiments were concentrated and encamped about Dunkirk, under the pretext of threatening a descent on England, but with the real object of preventing, in case of necessity, the English troops, which were being disembarked at Ostend, from invading France. At the end of the year broke out what is known as the War of the Austrian Succession.

(*To be continued.*)

NAVAL NOTES.

HOME.—The following are the principal appointments which have been made: Vice-Admiral—Sir A. W. Moore, K.C.B., C.M.G., to be Second-in-Command of Channel Fleet. Rear-Admirals—W. Des Vœux Hamilton, to be Second-in-Command of China Squadron; Sir A. B. Milne, Bart., K.C.V.O., to be Second-in-Command of the Atlantic Fleet. Captains—C. R. Keppel, C.B., D.S.O., to be Commodore 2nd Class, to Command H.M. Yachts; S. H. M. Login, W. B. Fisher, C.B., F. G. Stopford, to be Commodores 2nd Class; H. L. Heath to "Repulse"; H. L. Tottenham to "Lancaster"; F. G. Eyre to "Spartiate"; B. Currey to "Good Hope"; A. T. Stuart to "Terrible"; the Hon. R. F. Boyle, M.V.O., to "Vulcan"; W. De Salis, M.V.O., to "Gladiator"; J. Casement to "Duncan"; W. O. Story to "Grafton"; H. P. Williams to "Goliath"; F. S. Pelham to "Royal Oak"; R. G. Fraser to "Ramillies"; M. E. Browning to "Impregnable"; J. R. Bridson to "Hermione"; H. J. L. Clarke to "Talbot"; S. V. Y. de Horsey to "Blake"; G. H. B. Mundy, M.V.O., to "King Alfred."

The first-class cruiser "Diadem," one of the Chatham Reserve Division, has been sent to China to relieve a sister-ship, the "Amphitrite" ordered home; having completed her foreign service complement, the "Diadem" left for her new station on the 20th ult., escorting the new destroyer "Arun" from Plymouth to Gibraltar.

The second-class cruiser "Charybdis" arrived at Plymouth from the North America and West Indian station, and paid off at Chatham on the 24th ult., commissioning the following day for service with the Reserve Division.

The third-class cruiser "Pegasus" left Sheerness on the 10th ult., for Australian station. The third-class cruiser "Tauranga" arrived at Portsmouth on the 11th ult., from Australia, and will pay off at that port, preparatory to being sold out of the service. The paddle special-service vessel "Sphinx" paid off at Bombay on the 24th ult., and recommissioned on the following day for a further period of service in the Persian Gulf.

The Fleet Redistribution.—On the 20th March there was issued as a Parliamentary paper [Cd. 2430] the following memorandum by the First Lord of the Admiralty respecting the arrangements consequent on the redistribution of the Fleet:—

In continuation of my Memorandum of the 6th December, 1904 (Navy—Distribution and Mobilisation of the Fleet), I have now to announce that the changes there foreshadowed, so far as the lapse of time has permitted, have been made operative by orders recently issued.

2. These changes, which have been completed or are in course of completion, comprise:—

a. Increase of the Channel (late Home) Fleet to 12 battle-ships.

b. Reconstitution of the late Channel Fleet as the Atlantic Fleet, with its permanent base at Gibraltar, under the command of a Commander-in-Chief.

c. Constitution of the First Cruiser Squadron, affiliated to the Channel Fleet, and of the Second Cruiser Squadron, affiliated to the Atlantic Fleet, and each consisting of five armoured cruisers, to be increased in the near future to six armoured cruisers.

d. The abolition of the South Atlantic Squadron.

e. The reconstitution of the Mediterranean Fleet with eight battle-ships, and the constitution of the armoured cruisers attached to the Command as the Third Cruiser Squadron.

f. Arrangements for the repairs of the Channel Fleet to be carried out at the home dockyards, and those of the Atlantic and Mediterranean Fleets at Gibraltar and Malta respectively.

g. The constitution of the Particular Service Squadron, under the command of the Commander-in-Chief, North America and West Indies station, composed of the flag-ship on that station, and the five sea-going training-ships for cadets, youths, and boys. This forms the Fourth Cruiser Squadron.

h. The establishment of the system of commissioning all sea-going ships of the fighting line at the several home ports with nucleus crews, with a rear-admiral in command at each port, so as to enable them to proceed to sea either singly or in squadrons at a few hours' notice.

N.B.—The squadron of nucleus crew ships at Devonport and Portsmouth have already completed their first cruise in the Channel with most satisfactory results.

i. The substitution of modern cruisers for the older vessels recently acting as schools for navigation or as tenders to the gunnery schools.

j. The withdrawal from commission of vessels of comparatively small fighting efficiency.

3. Consequent on the above redistribution, further orders have been issued for regulating the cruises and manœuvres of the various fleets and squadrons.

4. These orders have been based on the principle, to which great importance is attached, that the fleets and squadrons everywhere should, as far as possible, be kept together as a whole, and ready at any time for instant action.

5. The advantages of such a system are manifest, but if carried out to the extent that a battle-ship or large cruiser, whether at anchor or under way, is never to be out of the sight, and therefore never out of the immediate control of a flag officer, there is danger of destroying the spirit of initiative and originality on the part of the individual captains.

6. It has therefore been laid down that at one period of the year, as may be convenient, the larger ships of each fleet may be separated for a few weeks by twos or threes in adjacent anchorages, where the respective captains may have the opportunity of carrying out independently any exercises they may desire to practise both at anchor and under way.

7. In pursuance of the general principle, orders have further been given that, as a rule, not more than one large vessel of a fleet or squadron is to be under repair in dockyard hands at one time, so as to ensure the various fleets and squadrons being kept always at their effective strength and ready for instant service. Each ship whilst undergoing her annual refit will take that opportunity of putting the crew through the annual musketry course and through such torpedo course in the way of practice and lectures, etc., as may be found desirable.

Gibraltar and the Limits of the Mediterranean Station.

8. Gibraltar having been constituted the permanent base of the Atlantic Fleet, involving the frequent presence there of the Commander-

in-Chief of that fleet, it was felt that to retain it as an integral part of the Mediterranean Command would result in the establishment of a species of dual control over the *personnel* at Gibraltar, which could hardly fail to lead to complication and delay in the conduct of business at the port. It has therefore been judged expedient to separate it from the Mediterranean station in peace time, and to place it under the immediate control of the Commander-in-Chief who will be generally present, and who will depend upon its dockyard for the repairs to his fleet. In war time it will revert to the Mediterranean station.

9. The limits of the Mediterranean station on the west, which at present extend into the Atlantic to the 10th degree of west longitude, have consequently been reduced, and the western boundary will henceforward be the 5th degree of west longitude, or about 16 miles to the east of Point Europa.

10. It is not proposed to give any geographical sphere to the Atlantic Fleet, which, being permanently stationed in the vicinity of Gibraltar, will naturally attend to any diplomatic or other work within reach of that place. Its cruising ground will extend into the western basin of the Mediterranean, inclusive of the west coast of Italy, the coast of Sicily, and Cape Bon, and in the Atlantic it will extend to the north as far as Cape Finisterre, and to the west and south up to, and inclusive of, the Azores and the Canary Islands.

Cruises and Manœuvres of the Fleets and Squadrons.

11. The Atlantic Fleet will carry out combined manœuvres with the Mediterranean Fleet twice a year, at the end of April and at the beginning of August, and once a year with the Channel Fleet in February, and the period occupied in each of those meetings will not be less than 7 nor more than 14 days, exclusive of the days of meeting and parting.

12. Between the dates of these combined manœuvres the three above-mentioned fleets will carry out individual cruises and exercises, either in their own particular areas or in the adjacent waters, except in the months of June and July.

13. In the two last-named months the general manœuvres referred to in my previous memorandum will take place annually.

Cruiser Squadrons.

14. As already stated, the First and Second Cruiser Squadrons have been attached to the Channel and Atlantic Fleets, but they will from time to time make independent cruises, with the object of showing the flag at the principal ports on the coasts of the Atlantic Ocean. These cruises will, as a rule, each occupy about two months.

15. The Third Cruiser Squadron will remain in the Mediterranean under the orders of the Commander-in-Chief, and will be regarded and worked, so far as practicable, as a complete unit in conjunction with the destroyer flotilla which has been affiliated to it.

16. The Fourth Cruiser (Particular Service) Squadron, which comprises the flag-ship of the vice-admiral in command of the North America and West Indies station, and the several sea-going training-ships, will make three cruises annually in the West Indies and in home and adjacent waters, returning home after each cruise at the dates fixed for changing the classes under training.

17. Under this arrangement it is estimated that the Fourth Cruiser Squadron will be cruising for 30 weeks, and will be at home for 22 weeks.

18. The refit and docking of the ships, and the leave to officers and men, will take place in the course of the time spent in home waters.

19. The captains of the training-ships will be allowed as much latitude as possible in the training, both at sea and in harbour. These ships will, so far as possible, act independently with regard to their drills, and competitive drills between them will be discountenanced as adverse to thorough and systematic instruction.

20. It is in contemplation at an early date to combine the four Cruiser Squadrons for special cruiser exercises.

Eastern Fleet.

21. The Commander-in-Chief in China has been instructed in the sense of paragraphs 4 to 7 inclusive, and directed to furnish a programme each year of the cruises and exercises he proposes to carry out.

After the conclusion of the manœuvres in the summer, the China, East Indies, and Australian Squadrons, which will then be at their war stations, will rendezvous at Singapore for combined fleet exercises. An opportunity will thus be afforded for that interchange of views between the admirals which the Board of Admiralty deem so important.

Special Vessels.

22. The new fast cruiser "Diamond" will be stationed at Bermuda for service in the West Indies to protect British interests during the time when the Fourth Cruiser Squadron is absent from those waters.

23. The "Shearwater" will be stationed at Esquimalt for any services that may be required on the Pacific Coast, but more especially for duties in connection with the Behring Sea Fisheries.

24. The "Dwarf" is stationed on the West Coast of Africa for any services that may be required there.

25. The "Assistance," repair-ship vessel, of over 10,000 tons, very elaborately fitted for the purpose, has now been attached to the Atlantic Fleet.

General Organisation of Torpedo Flotillas.

26. The question of extending the existing organisation of the torpedo craft at home and abroad has been carefully re-considered with a view to obtaining the *maximum* advantage possible from the newly-introduced nucleus crew system, the establishment of which has enabled a great advance to be made in the number of torpedo craft which can be maintained continually ready for instant action on a sudden emergency. Every effective torpedo-vessel in reserve of every type and class is now and will be henceforth in commission in reserve with a crew of two-fifths full strength, and the men who are available in the depôts for the purpose can *at once* complete full crews required; it is therefore clear that, whereas the old organisation provided a certain number of vessels instantly ready, the new organisation provides that number, *plus* the whole of the remaining effective vessels, ready to complete for commission at sea on the simple receipt of a telegram or signal, as the balance of their crews are available at the ports.

27. Periodically the torpedo craft in reserve with nucleus crews will conduct tactical exercises under way, and such short cruises and instructional evolutions as may be found to be desirable.

28. The essence of the employment of torpedo craft is immediate readiness for all eventualities, and many important advantages may be looked for from a system which employs a specially selected and trained *personnel* for long periods in torpedo craft.

Torpedo Craft Flotilla in Home Waters.

29. A rear-admiral has been appointed to command all destroyers, torpedo-boats, and submarines in full commission and also those in commission in reserve in home waters. He will fly his flag in the new fast cruiser "Sapphire," with headquarters at Portland.

30. The torpedo-boats and submarines at the home ports, so long as they are based on those ports, will, however, remain under the supreme control of the respective Commanders-in-Chief, as at present.

31. The stationary destroyer depôt-ships "Erebus," "Fisgard," and "Tenedos" having been appropriated for the purpose of training boy artificers, their place has been taken up by the old first-class cruiser "Impérieuse," which will be stationed at Portland as tender to the "Sapphire," and will be known as "Sapphire II."

32. Pending the completion of the destroyer base at Sheerness, and of the harbour works at Dover, the 24 destroyers in the three sea-going flotillas have been concentrated at Portland as tenders to the flag-ship "Sapphire."

Torpedo Craft Flotilla Attached to the Atlantic Fleet.

33. H.M. ships "Leander" and "Tyne" will be placed under the orders of the Commander-in-Chief of the Atlantic Fleet as depôt-ships for the destroyer and torpedo-boat flotillas attached to his fleet, which will comprise the following :—

10 destroyers in commission with full crews.
8 destroyers } In reserve at Gibraltar. Commissioned with nucleus crews.
12 first-class torpedo-boats }

Torpedo Craft Flotilla in the Mediterranean.

34. The rear-admiral commanding the Third Cruiser Squadron will be immediately responsible to the Commander-in-Chief for this flotilla equally with the squadron. H.M.S. "Vulcan" will act as depôt-ship for the flotillas. The number of torpedo craft attached to the Mediterranean Fleet will be as follows :—

15 destroyers in commission with full crews.
7 destroyers } In reserve at Malta. Commissioned with nucleus crews.
9 first-class torpedo-boats }

Torpedo Craft Flotilla on the China Station.

35. The "Hecla" will shortly proceed to China as a depôt-ship for the torpedo craft on the station, which will comprise the following :—

6 destroyers in commission with full crews.
2 destroyers } In reserve at Hong Kong. Commissioned with nucleus crews.
4 first-class torpedo-boats }

36. The Board are well aware that these changes have sometimes entailed considerable inconvenience on those concerned in them, but they were necessary for the good of the Service, and the Board are glad to take this opportunity of expressing their cordial appreciation of the thoroughly efficient and loyal manner in which they have been carried out by all ranks and ratings of His Majesty's Navy.

Selborne.

March 15th, 1905.

AUSTRIA-HUNGARY.—*Appointments.*—Vice-Admiral Graf Montecucoli-Polinago has been appointed Minister of Marine, in succession to Admiral Freiherr von Spaun, who retires after fifty-four years' service in the Navy. Rear-Admiral Kneissler von Maixdorf, late in command of the Manœuvre Squadron, succeeds Graf Montecucoli as Head of the Marine Section.

Naval Estimates for 1905. — The Ordinary Budget for the current year amounts to 42,869,440 kronen (£1,786,226 13s.), showing an increase of 3,429,990 kronen (£142,916 5s.) over 1904; and the Extraordinary Estimates amount to 8,156,970 kronen (£339,873 15s.), showing a decrease of 2,429,990 kronen (£101,249 12s.) as compared with last year, making a grand total of 51,026,410 kronen (£2,126,100 8s.), or an increase of 1,000,000 kronen (£41,666 13s.) In addition, an Extraordinary Credit of 75,176,000 kronen (£3,132,333 7s.) was approved, of which 12,500,000 kronen (£520,833 7s.) was expended in 1904, and 62,676,000 kronen (£2,611,500) for expenditure this year, of which last sum however, 22,079,000 kronen (£919,958 7s.) has to be paid into the Sinking Fund.

The principal items of the Ordinary Budget are as follows:—

	Kronen.	£ s.
Pay of officers, etc.	4,318,520	= (179,938 7)
Pay of petty officers and seamen, with clothing ...	3,608,930	(150,372 2)
Land service	1,878,520	(78,271 13)
Sea „	4,933,880	(205,578 7)
Establishments:—		
Hydrographical Office and Naval Library	79,120	(3,296 13)
Naval Academy	226,560	(9,440 0)
„ lower-grade schools	5,790	(241 5)
„ hospitals	241,010	(10,042 2)
Maintenance of the Fleet:—		
Dockyards, repairs, and *matériel*	7,462,340	(310,920 17)
New Ships and Machinery:—		
Sixth and last Vote out of a total Vote of 11,785,050 kronen (£491,043 15s.) for first-class armoured cruiser "St. Georg" of about 7,300 tons displacement	1,166,000	(48,583 7)
Fifth Vote out of a total Vote of 17,400,000 kronen (£725,000) for first-class battle-ship "Erzherzog Karl" of about 10,600 tons displacement	4,200,000	(175,000 0)
Fourth Vote out of a total Vote of 17,400,000 kronen (£725,000) for first-class battle-ship "Erzherzog Friedrich" of about 10,600 tons displacement ..	4,300,000	(179,166 13)
Second Vote out of a total Vote of 17,400,000 kronen (£725,000) for first-class battle-ship "C" of about 10,600 tons displacement	3,500,000	(145,833 7)
First Vote out of a total Vote of about 8,000,000 kronen (£333,333 7s.) for Torpedo-boats, Ersatz obsolete torpedo-boats of the second and third class	2,053,000	(85,551 13)
Ordnance, etc.	1,440,000	(60,000 0)
Miscellaneous expenses	3,700,770	(154,198 14)
Apparent total	43,114,440	(1,796,435 0)
Certain deductions	245,000	(10,208 7)
Real total	42,869,440	(1,786,226 13)

The following are the principal items of the Extraordinary Estimates:—

	Kronen.	£ s.
Certain expenses in connection with Naval Academy, naval schools, charts, ships' libraries, nautical-technical dictionary, etc.	42,580 =	(1,774 3)
Maintenance of the Fleet—New Ships and Machinery:—		
Fourth Vote out of a total Vote of 4,500,000 kronen (£187,500) for a steel floating dock	25,000	(1,041 13)
Fourth Vote out of a total Vote of 3,400,000 kronen (£141,666 13s.) for two Danube monitors and five patrol boats	750,000	(31,250 0)
Ordnance—Guns, Gun-mountings, Ammunition, Submarine Mines, Torpedoes, and Electro-Technical objects, etc.		
Fifth Vote out of a total Vote of 2,750,000 kronen (£114,583 7s.) for armament of first-class armoured cruiser "St. Georg"	700,000	(29,188 13)
Third Vote out of a total Vote of 5,070,000 kronen (£211,250) for armament of first-class battle-ship "Erzherzog Karl"	1,600,000	(66,666 13)
Second Vote out of a total Vote of 5,070,000 kronen (£211,250) for armament of first-class battle-ship "Erzherzog Friedrich"...	1,000,000	(41,666 13)
Second Vote out of an approximate Vote of 520,000 kronen (£21,666 13s.) for armament of two Danube monitors "Temes" and "Bodrog," and five patrol boats	60,000	(2,500 0)
First Vote out of an approximate Vote of 5,070,000 kronen (£211,250) for armament of battle-ship "C"	500,000	(20,833 7)
Vote for 8-mm. machine guns	44,000	(1,833 7)
Third Vote out of a total Vote of 224,000 kronen (£9,333 7s.) for revolvers	40,000	(1,666 13)
Votes out of a total Vote of 13,430,000 kronen (£559,583 7s.) for ammunition, etc., for "Babenberg," "St. Georg," "Erzherzog Karl," 15-cm., Q.F. guns, "Erzherzog Friedrich," "Temes," "Bodrog" and five patrol boats	2,250,000	(93,750 0)
Vote for torpedoes and torpedo-nets	180,000	(7,500 0)
Second Vote out of total Vote of about 300,000 kronen (£12,500) for Wireless Telegraphy apparatus ...	60,000	(2,500 0)
Votes out of a total Vote of 2,646,400 kronen (£110,266 13s.) for workshops, buildings, and other works, printing, etc.	626,000	(26,061 7)
Expenses in connection with the Guard detachment in China	279,390	(11,641 6)
Total	8,156,970	(339,873 15)

Extraordinary Credit for Expenditure during 1905:—

Ordinary Estimates	Kronen.	£ s.
For coal and *matériel* in the dockyards, etc.	3,000,000 =	(125,000 0)
For approved new ships	20,366,000	(848,583 7)
For renovation of torpedo-flotilla	15,300,000	(637,500 0)
For submarine boats and stations	3,000,000	(125,000 0)
Reserve ordnance	750,000	(31,250 0)

Extraordinary Estimates.

	Kronen.	£ s.
For construction of approved monitors and patrol boats	1,200,000	(50,000 0)
For armament of approved ships	6,560,000	(273,333 7)
For ammunition of approved ships	5,500,000	(229,166 12)
For increase of ammunition and for torpedoes ...	5,000,000	(208,333 7)
For harbour buildings at Pola	2,000,000	(83,333 7)
Total	62,676,000	(2,611,500 0)

The Officer Personnel.—The active list of executive officers stands as follows :—One Admiral, three Vice-Admirals, ten Rear-Admirals, twenty Battle-ship-Captains, thirty-three Frigate-Captains, thirty-eight Corvette-Captains, one hundred and forty-seven Lieutenants (1st Class), eighty Lieutenants (2nd Class), two hundred and one Sub-Lieutenants, one hundred Midshipmen, eighty-seven Cadets. The Medical Staff consists of one Medical Inspector-General, two Deputy Inspector-Generals (1st Class), two Deputy Inspector-Generals (2nd Class), six Fleet-Surgeons, eighteen Staff-Surgeons, eighteen Surgeons, and sixteen Assistant-Surgeons. The Engineering Staff consists of six Chief Engineers, seventeen Engineers (1st Class), thirty-two Engineers (2nd Class), forty-four Engineers (3rd Class). — *Rang-Liste der K. u K. Marine* and *Mittheilungen aus dem Gebiete des Seewesens.*

France.—The following are the principal promotions and appointments which have been made : Capitaines de Vaisseau—J. Krantz, N. Kiésel to be Rear-Admirals; L. J. Lormier to "Infernet," and Command of Naval Division in the East Indies. Capitaines de Frégate—R. P. C. Les Moines des Mares, A. Rouyer, P. A. De Gueydon to Capitaines de Vaisseau; L. M. La Porte to "Manche"; H. Du Crest de Villeneuve to Command of Fixed Defences at Cherbourg; G. Monneyrès to Command of 3rd Torpedo-boat Flotilla; L. F. Bertaud to "Vauban," and Command of 2nd Torpedo-boat Flotilla in China; E. M. Barthes to "St. Barbe."—*Journal Officiel de la République Française.*

Rear-Admirals Kiésel and Krantz, who have just been promoted to that rank, are fifty-eight and fifty-six years of age respectively, and have the one thirty-nine, and the other thirty-seven years of service.

Vice-Admiral Péphau hoisted his flag and took over the Command at Brest on the 1st March.

The new Minister of Marine in the Rouvier Cabinet, M. Thomson, has been Député for Constantine since 1877; he has several times been reporter of the Budget of Finance, and in 1892 was reporter of the Budget of the Navy; he is also Vice-President of the Extra-Parliamentary Commission on the Navy now sitting. At one time he was connected with Gambetta on the staff of the *République Française.*

By a decree of the Ministry of Marine, a naval division of Corsica has been created from the date of 24th March next. It will be composed of all vessels stationed on the coasts of the island, and will be under the command of a capitaine de vaisseau.

The Minister of Marine has directed the authorities at the Port of Toulon to prepare plans for a coaling barge, to carry 1,000 tons of coal,

furnished with the necessary appliances for rapidly coaling ships, and for an oil tank of some 300 tons, also to be furnished with the necessary pumping gear, for supplying ships.

The Squadron of the North completed to their full sea-going strength on the 1st inst. for six months.

The first-class armoured cruiser "Léon Gambetta," on the completion of her trials, is to be commissioned for service with the Cruiser Division of the Squadron of the North.

The first-class cruiser "Chateaurenault," on her way home from China, is to be paid off at Cherbourg and placed in the Normal Reserve.

The second-class cruiser "Chasseloup-Laubat" commissioned at Cherbourg on the 28th ult. for service as Senior Officer's ship on the Newfoundland and Icelandic Fisheries during the fishing season.

The aviso-transport "Manche," which has been employed for some years as one of the Newfoundland Fishery Protection Squadron, is now being specially fitted out at Lorient for surveying service on the coast of Indo-China, and her crew has been transferred to the third-class cruiser "Lavoisier" at Cherbourg, which will take her place on fishery duty.

Défenses-Mobiles.—The following new denomination of the *défenses-mobiles* has been published, which includes the submarine stations :—

The *défense-mobile* of Cherbourg, Dunkerque, and Saint Servan will be named respectively the first, second, and third torpedo flotillas of the Channel (Manche).

The *défense-mobile* of Brest, Lorient, and Rochefort, the first, second, and third torpedo flotillas of the Ocean.

The *défense-mobile* of Toulon, Corsica, Tunis, Algiers, and Oran, the first, second, third, fourth, and fifth torpedo flotillas of the Mediterranean.

The *défense-mobile* of Saïgon, the first flotilla of torpedo-boats of the China Seas.

The *défense-mobile* of Diégo-Suarez, the torpedo flotilla of the Indian Ocean.

The submarine station at Cherbourg will in future be called the first submarine flotilla of the Channel.

The submarine flotilla of La Pallice, the first submarine flotilla of the Ocean.

The submarine stations at Toulon and Bizerta, the first and second flotillas of submarines of the Mediterranean respectively.

The submarine station at Saïgon, the first submarine flotilla of the China Seas.

Stranding of the "Sully."—It is believed now that the armoured cruiser "Sully," which, as we reported in last month's Notes, had struck on a rock in Along Bay, Cochin China, will prove a total loss.

At a recent Cabinet Council held at the Elysée, M. Thomson, Minister of Marine, communicated a telegram from Vice-Admiral Boyle, commanding the French Squadron in Chinese waters, stating that the men engaged in salving the French cruiser "Sully" were still without the

requisite appliances for lifting the forward part of the vessel off the rocks, although the transhipping of stores and loose fittings from her was actively proceeding. It has since been reported that the Hong Kong salvage firm have given up the work, as they consider it beyond their power to refloat her, owing to the extensive damage to her bottom.

New Ships.—Orders have been received at Brest from the Ministry of Marine to suspend work on the new first-class armoured cruiser "C 16" ("Edgard Quinet"). This step has been taken in view of the recommendation of the Naval Budget Committee that the new cruisers "C 16" and "C 17" should be identical with their immediate predecessor, the "Ernest Renan," so as to form a completely homogeneous division. There was some doubt as to whether work was not too advanced on "C 16" to render it advisable to alter the plans, but in view of the orders given this would not appear to be the case.

It has now been settled that the projected first-class armoured cruiser "C 17," which is to be called the "Waldeck-Rousseau," will take the place on the slips at Lorient of the first-class armoured cruiser "Jules Michelet," when this vessel is launched at the end of the summer. The "C 17" is to be superior in size and speed to the "Ernest Renan," and in consequence of the discussion on the Navy Budget, M. Thomson, the French Minister of Marine, has decided that she is to have the characteristics of the "Edgard Quinet," combined with the armament of the "Jules Ferry." A new Annexe to the Budget, which has just been distributed, gives the following particulars of the vessel:—Displacement, 13,700 tons; length, 515·1 feet, in place of 528·2 feet as originally designed; beam, 70·2 feet; draught, 26·24 feet; engines, 36,000-I.H.P.; speed, 23 knots; radius of action at 10 knots, 12,000 miles, with 2,300 tons of coal. The armament will consist of four 19·4-cm. (7·6-inch), sixteen 16·4-cm. (6·48-inch), twenty-four 3-pounder, and two 1-pounder guns, all Q.F. She will also have two torpedo-tubes, both submerged. The "Ernest Renan" will carry only twelve 16·4-cm. guns. *Le Yacht* regrets that these vessels are only carrying 3-pounder guns for use against destroyers, and considers it would be better to substitute 6-pounders, even if the number carried had to be decreased by a third. The estimated cost of "C 17" is £1,163,080. It is hoped that with 36,000-I.H.P., the speed of 23 knots demanded will be easily reached, if not exceeded. *Le Yacht* considers the "C 17" will be one of the finest cruisers afloat, but that as she is not to be completed before 1909, she comes too late, as probably before then the calibre of the guns of armoured cruisers will have been increased.

It is reported that the commander of the new first-class armoured cruiser "Marseillaise" has made the following complaints with regard to his ship: — 1. Feeble armament relative to displacement. 2. Insufficient protection at base of turrets. 3. Instability of gun platforms. 4. Speed endurance doubtful. 5. Derangement of compasses by vibrations at speeds of 17 or more knots. 6. Leakage fore and aft due to same vibrations. 7. Non-drainage of rain and sea water from upper deck. 8. Smallness of space for stowing the anchors. 9. Tendency of cable to slip from sprocket-wheel of capstan when turning back. 10. Want of ventilation in drying chambers. 11. Want of protection of crews of 3·9-inch guns against blowing off of 6·5-inch guns. 12. Bad distribution of small guns. 13. Uselessness of only slightly protected torpedo-tubes aft. 14. Weakness of after part of main deck, where the vibration interferes with accuracy of fire. 15. Com-

plicated transport of search-lights under shelter of armour deck. 16. Bad position of the "Thirions" pumps. 17. Insufficient thickness of boiler-plates, which will not bear long usage. 18. Noise and vibrations of ventilators. 19. Failure of heating between decks.

The new first-class armoured cruiser "Léon Gambetta," whose trials were interrupted a year ago by the severe damage she sustained as the result of striking on an uncharted pinnacle rock off the Black Rock group of islets, when steaming at a speed of 19 knots off Brest, has again been unlucky, as on leaving the harbour recently to resume her trials she first damaged one of her screws, which was followed by the cracking of one of her auxiliary cylinders along its whole length; it is uncertain how soon the repairs will be effected.

Trials of the Armoured Cruiser "Dupetit Thouars."—The new first-class armoured cruiser "Dupetit Thouars" has been carrying out her trials satisfactorily at Toulon. On the 14th February at her full-speed trial the engines developed 21,958-I.H.P., being 2,300-H.P. over the contract, which was for 19,600, the speed obtained being 22·02 knots, or a knot over the contract speed; the coal consumption being 143 kg. (315·17 lbs.) per square metre of grate surface per hour, the contract allowing 160 kg. (352·64 lbs.). On the 17th-18th February the ship made a satisfactory twenty-four hours' coal-consumption trial. With the engines developing 10,867-I.H.P., instead of the 10,000 required, the high speed of 18·9 knots was attained, with a coal consumption of 591 gr. (1·182 lbs.) per I.H.P. per hour, and of 59 kg. (130 lbs.) per square metre of grate surface per hour. The consumption trial at 14,000-I.H.P. was attended with equally satisfactory results, the expenditure of coal being 559 gr. (1·118 lbs.) per H.P., instead of an estimated 750 to 800 gr. (1·5 to 1·6 lbs.).

Submarine and Submersible Boat Trials. — The following are the results of the comparative trials between the submersible boat "Aigrette" and the submarine "Z," which have lately taken place before the special Commission on Submarines at Cherbourg. The "Aigrette" is of the improved "Sirène" type, of which 13 were ordered by M. de Lanessan, but when M. Pelletan became Minister of Marine, only two, the "Aigrette" and "Cicogne," were allowed to be completed. The dimensions of the "Aigrette" are as follows:—Length, 117 feet 6 inches; beam, 12 feet 7 inches; displacement, 172 tons; motor, 200-H.P., to give a speed of 10·5 knots. The dimensions of "Z" are:—Length, 135 feet 6 inches; beam, 9 feet 8 inches; displacement 202 tons; motor, 190-H.P., to give a speed of 11 knots. The trials terminated very much sooner than was expected, and the result has been to clearly prove the superiority of the submersible over the submarine for work at sea. The "Aigrette," with much more beam and better distributed weights, showed herself to be much the better sea-boat of the two, and was the drier, although she has no bridge and she answers her helm well, while her habitability is of course far better than that of the submarine, as the men can come up and breathe fresh air in perfect safety; "Z," on the contrary, did not rise to the sea, and laboured a good deal, this being due, it is supposed, to her four torpedo-tubes weighing her down forward; moreover, she does not steer well; while the high bridge with which she has been fitted, for navigating purposes, when moving on the surface, has the disadvantage of rendering her visible at a distance.

"Z" ought to have realised a speed of 11 knots on the surface, but she only made 8·3 knots; when submerged she only made 4·1 knots, and it is

not believed to be possible to get her up over 6 knots, while the stipulated speed was 7·6 knots. The "Aigrette" made 8·7 knots on the surface, instead of the 9·2 knots promised; when submerged she made 6·3 knots instead of the stipulated 6·7 knots. While "Z" rolled heavily and her crew experienced much discomfort, the roll of the "Aigrette" did not exceed 12°, and the men were able to cook. What caused real astonishment during the trials was the time taken when diving; it was fully expected that "Z" would have dived in much less time than the "Aigrette," as she is an improved and larger "Farfadet," and the "Farfadet" is able to dive in 90 seconds, whilst according to the contract 5 minutes is allowed for the "Aigrette" to dive. Three trials were made under practical conditions at sea with the machinery for running on the surface at work. The results of the three trials were as follows :—

"Aigrette"	4m. 30s. 4m. 14s. 5m. 50s.	"Z"	5m. 30s. 4m. 30s. 10m.

These trials seem clearly to show that the submersible alone presents the necessary qualities for all prolonged navigation at sea; this does not necessarily involve the complete abandonment of the submarine, but it must be adapted to a certain *rôle*, and more must not be expected from it than it can perform. The submersible is the engine of offence, but the submarine can render useful service for coast defence, that is over a limited field of action. The submarine costs much less than the submersible; it will therefore be advisable to use it for defensive purposes.

Another result of the trial has been to show that "Z," which is a large "Lutin," the plan for the two vessels being by the same designer, has not gained anything by her increased dimensions, whilst the "Aigrette," which is an improved "Narval," has, on the contrary, gained much. The Committee are of opinion that the submersible of the future should have a displacement of 400 tons, and that the useful displacement of the submarine should not exceed 100 tons. It therefore becomes a question of deferring any further work on the new submarines of the "Emeraude" type, which were to have had a displacement of 450 tons, until the whole question has been considered. The Committee before leaving Cherbourg inspected the new submarine station, and expressed their complete satisfaction with it.

It is also interesting to note that the Budget Committee also recommends that as regards submersibles, a return should be made to the 1900 programme. Instead of the 44-ton boats which were last ordered, and which are uninhabitable, eleven submarines of the "Aigrette" type should be constructed. The Commission further recommends that sixty-six torpedo-boats should be built, the construction to be divided between the dockyards and private yards, as may be most convenient.

The new submarines have been ordered at Cherbourg. These were mentioned originally in the Annexe to the Budget first distributed in the French Chambers as "Q 47" and "Q 48"; but after revision of the Annexe they became "Q 59" and "Q 60." These boats are to be of a modified "Emeraude" type. They are not to be confused with the "Rubis" and "Topaze," which are precisely of the "Emeraude" type. They will each displace 425 tons; length about 180 feet; beam, 12·8 feet; motor, 1,200-H.P.; speed, 12 knots, cost of the two £145,600. A small

submarine for experiments was ordered at Toulon at the end of last year. She is intended to be carried and launched from a larger vessel; some war-ships now building will have a special provision for doing this when out at sea. The small boat is known as "Q 61." Her displacement is 21 tons; length, 36·5 feet; beam, 6·5 feet; motor, 140-H.P.; cost, £7,200. —*Le Yacht*, *Le Temps*, and *Le Petit Var*.

United States.—*Scout Cruisers for the United States Navy.*—The chief characteristics of the new 24-knot scout cruisers appropriated for in the Naval Appropriation Act of 27th April, 1904, have been defined by the Board on Construction, and the development of the details of design is now in progress. The chief characteristics are as follows:—Length between perpendiculars, 420 feet; beam, 46 feet 8 inches; draught fully loaded, 18 feet 3½ inches; depth amidships, 36 feet 5 $\frac{5}{8}$ inches; displacement loaded, 4,310 tons; draught on trial, 16 feet 10 inches; corresponding displacement on trial, 3,750 tons; speed, 24 knots. The battery will consist of twelve 3-inch guns, carried on the main deck. There will be two 21-inch submerged torpedo tubes; 3,600 rounds of 3-inch ammunition and 8 torpedoes to be carried. The estimated weight of battery and full ammunition is 140 tons.

The Board at first recommended a 1½-inch inclined nickel-steel deck for the length of the machinery space, and 2-inch vertical steel protection to extend above the tops of boilers and cylinders of the main engines, with at each end of the machinery space an athwartship 1-inch steel bulkhead. For the steering gear, nickel-steel protection 2 inches thick and 1 inch on the flat was recommended. In working up the details of the design, it developed that the inclined deck would interfere to a very great extent with proper coal-bunker arrangement and means for rapidly stowing and emptying bunkers; so that the nickel-steel protection in wake of machinery may be placed either at the ship's side, or on the fore-and-aft inclined bulkhead, between bunkers and firerooms. This change will give to these vessels an efficient arrangement of coal bunkers, which will add very materially to their steaming efficiency and endurance.

The Board recommended that a design be prepared by the Department, to include twin-screw reciprocating engines, with the necessary auxiliaries, of about 16,000 maximum I.H.P.; twelve water-tube boilers; an evaporating plant of 1,600 gallons capacity per day; a refrigerating plant of two tons capacity; a general workshop; the total weight of machinery, including spare parts, to be 794 tons. The Board recommended that the Department ask for bids under two classes; the first to be on the Department's design without changes in hull or machinery, and the second to be with the general characteristics of hull as set forth above, but on the bidder's design of machinery, preference being given to a turbine installation.

The 3-inch guns are to be supplied by chain ammunition hoists, two forward and two aft. The vessels are to be lighted by electricity. An electric generating plant of three 32-kilowatt machines is to be installed in separate dynamo room. The ventilating blowers, deck winches, and workshop motors are also to be electrically driven. Two large searchlights are to be installed. A wireless telegraph outfit is to be supplied. This, as well as other signal apparatus, is of special importance for the particular

work the scouts will be required to perform. The vessels will carry two pole masts for signalling. There will be four smokestacks, 78 feet above base line. The forecastle deck will be raised, and will extend aft as far as the forward smokestack. The freeboard will be about 34 feet forward and about 22 feet aft. The total coal capacity will be between 1,000 and 1,200 tons; coal on trial, 500 tons. Sixteen officers and a crew of 368 men are to be carried.

The development of the design of machinery installation has in contemplation the following:—Twelve boilers, modified Normand type, placed in three water-tight compartments, with a total grate surface of 690 square feet, and a total heating surface 38,000 square feet. At full speed the coal consumption will be about 300 tons per day. Each boiler room is to have an auxiliary feed pump piped to feed the boilers in its own compartment, to have fresh-water connections only; a fire and bilge pump piped to supply fire main and ash ejectors, and for pumping bilges; an ash ejector for removing ashes while firerooms are under air pressure.

There will be twelve blower engines driven by reciprocating engines or steam turbines, and located in the deck space above the boiler rooms. The blowers are to be of sufficient capacity to give an air pressure of 5 inches in firerooms. The engines are to be of the four-cylinder, four-crank, triple-expansion type, with a low-pressure cylinder at each end. The cylinders are: high-pressure 28¼ inches, intermediate-pressure 45 inches, low-pressure two 62 inches diameter. The stroke is 36 inches; revolutions 200 per minute, with corresponding piston speed of 1,200 feet per minute. It will be noted that the low-pressure cylinder for the corresponding power is of considerably larger proportions than has heretofore been the practice with naval engines. The larger low-pressure cylinder will allow a greater range of expansion to be used, and hence will conduce to greater economy.—*Scientific American.*

MILITARY NOTES.

PRINCIPAL APPOINTMENTS AND PROMOTIONS FOR MARCH, 1905.

Lieut.-General — Lieut.-General R. M. Jennings, C.B., I.A., to be General.

Major-General—Major-General D. T. O'Callaghan, C.V.O., r.p., to be President of the Ordnance Committee.

Colonels—Brevet Colonel R. T. Scallon, C.B., C.I.E., D.S.O., I.A., to be a Colonel on the Staff in India, and is granted the substantive rank of Colonel in the Army. Brevet Colonel H. E. Rawson, C.B., from Lieut.-Colonel, h.p., to be a Colonel on the Staff for Royal Engineers, and is granted the substantive rank of Colonel in the Army.

HOME.—*Army Estimates.*—The detailed Army Estimates for 1905-6 have been issued as a Parliamentary paper, which contains the following abstract of the more important figures arranged under the various votes:—

Votes. Nos.	—	Net Estimates. 1905-1906.	Net Estimates. [2] 1904-1905. [1] Re-arranged.	Increase on net Estimates.	Decrease on net Estimates.
A	I.—Numbers. Number of Men on the Home and Colonial Establishments of the Army, exclusive of those serving in India	Total Numbers. 221,300	Total Numbers. 227,000	Numbers. —	Numbers. 5,700
	II.—Ordinary Effective Services.	£	£	£	£
1	Pay, etc., of the Army ...	10,101,000	9,532,697	568,303	—
2	Medical Establishment:—Pay, etc.	482,000	454,340	27,660	—
3	Militia: Pay, Bounty, &c.	817,000	817,000	—	—
4	Imperial Yeomanry: Pay and allowances	438,000	468,000	—	30,000
5	Volunteer Corps: Pay and Allowances	1,220,000	1,220,000	—	—
6	Quarterings, Transport, and Remounts	2,190,000	2,255,650	—	65,650
7	Supplies and Clothing ...	4,630,000	5,033,950	—	403,950
8	Ordnance Department Establishments and General Stores (Ordinary Services)	808,000	887,200	—	79,200
9	Armaments and Engineer Stores (Ordinary Services)	1,306,000	1,910,390	—	604,390
10	Works and Buildings ..	2,330,000	1,982,400	347,600	—
11	Establishments for Military Education	130,000	124,060	5,940	—
12	Miscellaneous Effective Services	72,000	65,690	6,310	—
13	War Office and Army Accounts Department) ...	545,000	497,623	47,377	—
	Total Ordinary Effective Services	25,069,000	25,249,000	1,003,190	1,183,190
	III.—Non-Effective Services.				
14	Non-Effective Charges for Officers, etc.	1,677,000	1,666,000	11,000	—
15	Non-Effective Charges for Men, etc.	1,673,000	1,676,000	—	3,000
16	Civil Superannuation, Compensation, and Compassionate Allowances ...	181,000	189,000	—	8,000
	Total Non-Effective Services	3,531,000	3,531,000	11,000	11,000
	Total Ordinary Services	28,600,000	28,780,000 [2]	1,014,190	1,194,190
	Net decrease on Ordinary Services				£180,000

Army Estimates—continued.

	IV.—Extraordinary Services. Re-armament of Horse and Field Artillery.				
8	General Stores (Harness, Saddlery, etc.)	30,000	—	30,000	—
9	Guns, Carriages, Ammunition, etc.	1,183,000	50,000	1,133,000	—
	Total Extraordinary Services	1,213,000	50,000	1,163,000	—
	Grand Total—Ordinary and Extraordinary Services	29,813,000	28,830,000	2,177,190	1,194,190
	Net Increase on Ordinary and Extraordinary Services			£983,000	

NOTE.—The net expenditure for 1903-4 is not shown here, owing to the re-arrangement of the Votes.

Repayments by Government of India included as Appropriations in Aid of Army Estimates; other than Stores, etc., issued on Repayment.	1905-06.	1904-05.
	£	£
To meet the Expenditure for Raising and Training Recruits for India	560,000	556,000
For Deferred Pay and Gratuities for Service on the Indian Establishment	90,000	90,000
For Non-Effective Services of the European Army serving in India	927,188	924,589
	1,577,188	1,570,589
Deduct—Contribution from Army Funds towards Cost of Garrison of Aden and Sea Transport	230,000	230,000
	£1,347,188	£1,340,589

[1] In these columns the amounts voted in 1904-5 have been re-classified in accordance with the new arrangement of the Votes adopted for 1905-6.

[2] Exclusive of Additional Estimate for £550,000, dated 23rd February, 1905.

H. O. ARNOLD-FORSTER. C. W. DOUGLAS.
DONOUGHMORE. J. WOLFE MURRAY.
W. BROMLEY-DAVENPORT. H. PLUMER.
N. G. LYTTELTON.

E. W. D. WARD, *Secretary.*

War Office, 9th March, 1905.

Army Estimates.—The Secretary of State's Memorandum.—The following are the chief items of "Memorandum of the Secretary of State relating to the Army Estimates for 1905-1906," which was issued on the 10th March as a Parliamentary paper :—

TOTAL ESTIMATES.

The total money to be voted for Army services in 1905-06 compares with that voted in 1904-05, as follows :—

——	Army.	Ordnance Factories.	Total.
	£	£	£
Estimates, 1905-06	29,813,000	100	29,813,100
„ 1904-05	28,830,000	70,000	28,900,000
	983,000 Increase.	69,900 Decrease.	913,100 Increase.

This comparison is not affected by the additional estimate for £550,000 recently presented, as the whole of that sum was required for the purposes of the Somaliland expedition; but it is affected by the following special items:—

Provided in 1905-06:—		
Re-armament of Horse and Field Artillery -		£1,213,000
Increased charge for service of loans - -		370,000
Growth of charge for service pay, etc. - -		250,000
		£1,833,000
Less:—		
Provision for special "Mowatt" Reserves, etc., in 1904-05, terminating in that year - -	£400,000	
Provision for re-armament of Horse and Field Artillery, 1904-05 - - - - - -	50,000	
		450,000
Net increase on special services -		£1,383,000

Eliminating the special charge for Horse and Field Artillery from both years, the Army Estimates for 1905-06 stand at £28,600,000, as against £28,780,000 for 1904-05, a net reduction of £180,000, as shown at page 9 of the Estimates; and if the other special charges are also eliminated, the comparison stands:—

——	Army.	Ordnance Factories.	Total.
	£	£	£
Normal Estimates, 1904-05 ...	28,380,000	70,000	28,450,000
Normal Estimates, 1905-06 ...	27,980,000	100	27,980,100
Reduction	400,000	69,900	469,900

Strength of the Army.

The reduction of 5,700 men shown under Vote A does not represent the real change to be made in establishments, owing to the inclusion, on the one hand, of 10,000 extra men for Somaliland in 1904-05, and, on the other, of 11,500 extra men in 1905-06, to cover men in excess of establishment at the beginning of the year. The real reduction of establishments is thus 7,200 men, as explained at Page 4 of the Estimates.

The Infantry battalions at home stand in the establishment at 750 rank and file, but for reasons which are stated further on the Army Council consider it is permissible to make a considerable reduction in their strength below that figure. It is, however, never possible to make

large reductions suddenly, and the process must, therefore, be distributed throughout the whole of the year. The Garrison battalions, recruiting for which has for some time been stopped, will also be allowed to waste gradually. The reduction in the strength of the Army at the end of the year, including the absorption of a large number of men expected to be supernumerary to the present establishment on 31st March, 1905, will represent a diminution of about 17,000 men, or the equivalent of 20 battalions of Infantry. This large reduction of the *personnel* of the Army is justified in view of the peculiar circumstances of the year. Owing to the fact that the first of the 3-years' men have begun to pass into the Reserve, and that the ordinary contingent of 7-years' men is also passing into the Reserve, there will be a very large increase in the Reserve during the coming year.

The Army Council, moreover, have decided that it is not desirable to retain in the ranks 3-years' men who are not likely to extend, and permission has been given to men with more than 2 years' service to pass into the Reserve. Already no less than 2,017 men serving under these conditions have availed themselves of this permission.

It will be observed, therefore, that while the number of men with the colours will be diminished, the number in the Reserve will have correspondingly increased. The effect of the combined operation will be to reduce the strength of the Infantry battalions at the end of the year to 700. But the composition of these battalions will be much more satisfactory than that of the same battalions at the present time, as they will be, to a large extent, composed of men serving for 9 years instead of men serving for 3 years, and, for the most part, unavailable for the purpose of drafting. [See the tables under "Short Service Enlistment Stopped."]

Colonial Garrisons.

The conclusions of the Committee of Imperial Defence and the revision of the requirements of the Admiralty for naval bases and coaling stations have made it possible to reduce certain Colonial garrisons. It has also been found possible to reduce the British force in Egypt. These measures give a welcome relief to the strain involved in keeping so large a portion of the Army abroad, and will have an important effect in reducing its cost. But owing to the fact that the strength of the Army as a whole can only be reduced gradually, and that the bringing away of troops and stores from stations abroad involves a considerable expenditure on transport, the full relief will not be felt in 1905-06.

The Dominion Government has offered to assume at an early date the entire responsibility for the garrisoning of Halifax (Nova Scotia) and Esquimalt, providing Canadian troops for the purpose, and, until those troops are ready, paying the cost of the Imperial troops retained at those stations. The arrangements for this are not yet complete, but I have no doubt that a satisfactory conclusion will very soon be reached.

At the request of the British Representative in Egypt, the Government of Egypt has agreed to increase its contribution towards the cost of the British force in that country from £87,000 to £100,000 annually.

The Militia.

The Militia Vote is taken at the same figure as for last year.

The condition of the force remains unsatisfactory. The total strength, as compared with previous years, is as follows:—

1st January, 1905 - - - -	90,915
1st January, 1904 - - - -	88,282

There is a great variety in the numbers and quality of the units. The condition of some units, both of Infantry and Artillery, is very grave. In some cases it will be necessary to reduce such units. In others, the amalgamation of two or more units appears to be the only possible course.

A considerable portion of the Militia Artillery is redundant for defence purposes.

It is not possible to effect immediate or rapid reductions in this or any other branch of the Army, in view of the fact that all existing engagements must be respected. But it is hoped that during the coming year progress will be made in the direction of effecting some of the reductions which have been referred to.

The physical standard required of Militia recruits has been recently raised in order to check the enlistment of boys who are never likely to become effective soldiers.

A Bill enabling Militiamen to be enlisted for service abroad in time of war or national emergency has been introduced.

It is obvious that if the Militia is to be used for service abroad, it must undergo a longer period of training than at present, and must be provided with a larger number of trained Officers than it at present possesses.

When the reductions referred to above have taken place, it will be possible to give effect to the principal recommendations of the Duke of Norfolk's Commission, and to increase the length of active service, both on enlistment and at annual training.

Imperial Yeomanry.

One regiment of Yeomanry, which has never been raised and is not now required, has been omitted from the establishment. Nearly all the existing regiments are either up to or nearly up to their establishment, and the net deficiency on the whole Force is only 827 all ranks. The strength of the Force on 1st January, 1905, was 25,217, as against 25,536 on 1st January, 1904. These numbers are highly satisfactory, in view of the fact that 5 years ago the strength was only 10,114 on an establishment of 11,891. It has been found possible to make some reduction in the total of the Vote, now that the raising of additional men has practically ceased.

Volunteers.

The Volunteer Vote is taken at the same figure as for last year.

The strength of the Volunteer Force has been well maintained. The numbers on the 1st January, 1905, were 245,359, as compared with 241,280 on 1st January, 1904.

It was feared that the camp regulations might interfere with the number of men availing themselves of the privilege of going into camp. These fears, however, have not been realised. Last year no less than 175,000 men went into camp for one or for two weeks.

The Volunteer Vote is, to a large extent, a vote in arrear, the Capitation Grants provided in the present Estimates being those earned in 1904-05, in which year the total number of Volunteers showed a slight increase. It is impossible, therefore, to introduce any large increase of grants to the present force without a great addition to the present or future Estimates.

The Report of the recent Royal Commission, however, has shown that changes are necessary in order to secure the higher standard of efficiency which is desired, and especially to relieve Officers of the expense which

at present falls upon them. These changes must accordingly be made, but they can only be effected as money becomes available.

The Force is, at present, largely in excess of mobilisation requirements, and the present regulations encourage Commanding Officers to take men for financial reasons, rather than with a view to efficiency. It is therefore, proposed to reduce the surplus numbers gradually, and to apply the money thus saved to carrying out the necessary changes. The establishment will accordingly be reduced during the year to 230,000, a reduction of approximately 5 per cent. on the present strength.

It is not, however, proposed to limit the reduction of the Force to 15,359, the difference between the existing strength and the proposed establishment. On the contrary, it is desirable that the strength should be reduced to 200,000, at which figure the Force will still be in excess of the requirements of the General Staff.

The reduction of establishment will be effected partly by maintaining and, if necessary, raising the new physical standard for recruits recently laid down; partly by the abolition of outlying and inefficient companies; and partly by the amalgamation of two or more weak units to form one strong battalion. Until these changes have been worked out in detail, the establishments for individual corps shown in the Estimates must be considered provisional.

It is proposed to grant capitation allowances at an increased cost of about £15,000, to enable corps to take their men to suitable grounds for field training. These will be payable in arrear, out of the savings to be effected in the Vote for 1906-07. An additional allowance of ammunition for heavy gun practice, to the value of £5,000, will also be issued.

In addition, it is calculated that a reduction of the Force to 200,000 would allow of the following changes :—

1. The rate of allowance in respect of all Volunteer Officers serving in camp for 14 days to be raised to 14s. per diem.
2. An allowance at the rate of £5 for a fortnight in camp, and half that amount for a week in camp, to be given to mounted Officers.
3. The camp allowance to men attending camp for 14 days to be reduced to 4s. per diem, and the numbers of men allowed to attend to be increased from 20,000 to 60,000. The present camp allowance of £1 and Capitation Grant of 35s. in respect of those Volunteers who go into camp for one week to be maintained; the Capitation Grants to Volunteers who do not go into camp to be reduced from 35s. to 20s.
4. Classes for the instruction of non-commissioned officers to be established.
5. Some additions to be made to Volunteer transport.
6. A Divisional Staff to be provided for one Division.

It must be clearly understood that these changes are contingent upon the reduction of numbers and, with the exception of field training and gun ammunition, cannot be carried out this year.

Re-Armament :—Horse and Field Artillery.

On the 30th June, 1904, I stated in the House that it was proposed to complete for India in the present year 21 batteries of the new guns;

that 54 batteries would be completed for the British Army in the next financial year, 1905-06; and that 76 batteries for the British Army would then remain to be completed in the financial year ending 31st March, 1907.

This programme has been proceeded with during the past year, and, subject to any unforeseen contingency which may arise, the 126 guns and carriages and 378 wagons, which constitute the equipment of 21 batteries, will be completed at the end of the financial year, and will be despatched to India soon afterwards.

In July, 1905, an additional 15 batteries, or 90 guns, with wagons and ammunition, will be ready.

By the 31st March, 1907, 161 batteries, or 966 guns with wagons, ammunition, and spare parts, will be completed, leaving 14 batteries, or 84 guns, required for the reserve, to be supplied in the following year.

This is independent of eight batteries, or 48 guns, which will be manufactured in India.

The Reorganisation of the Army.

General Principles.

While the reorganisation of the War Office has closely occupied the attention of the Army Council, the even more important question of the reorganisation of the Army has not been neglected.

In the course of debate last year, I stated the reasons which led me to believe that such re-organisation was absolutely essential. Everything that I learnt during the past year has confirmed my belief in the correctness of the view I then expressed.

There were many general reasons for making a change, among which the most important was the new policy announced by the Prime Minister, and which depended upon the acceptance of the proposition that, *provided the Navy is efficient, a successful invasion of this country upon a large scale need not be contemplated.* The development of this doctrine necessarily led to a number of subsidiary conclusions, all of which were embodied in the proposals which I have from time to time submitted to the House.

The Urgency of the Case.

Apart, however, from the general principles which dictated the change, the actual condition of the Infantry battalions made some action absolutely imperative. I have explained the nature of the difficulty in some detail on page 4 [see above under "Strength of the Army"]; but I desire to impress upon the House the fact that the need for instant and effective measures calculated to restore the efficiency of the Infantry has necessarily and rightly dominated all other considerations during the past few months.

On the 14th July, 1904, I explained to the House the nature of the proposals for the reorganisation of the Army, which has received the sanction of the Government.

The proposals were discussed in the House of Lords on the 29th July, and it was not, therefore, until August that any action became possible.

Since that date much has been accomplished. Recruiting for the Garrison Regiment has been stopped, and arrangements have been made for hastening the reduction of these battalions by facilitating the discharge of a large number of men prior to the completion of their engagements.

It must be remembered, however, that all the men in the Garrison Regiment are serving on engagements which cannot be cancelled, save by consent. It is believed that satisfactory arrangements have been made in South Africa, whereby many of the men at present serving in the Garrison battalions will be enabled and encouraged to remain in the country on discharge.

Short-Service Enlistment Stopped.

On the 20th October, 1904, short-service enlistment for the Infantry was stopped, and enlistment for 9 years' colour service was substituted.

The 3-years' enlistment was a measure adopted during the war, and it undoubtedly proved of service in enabling the War Office to obtain in a very short time a large accession of recruits and to strengthen the Reserve rapidly; but the system is not one suited to ordinary circumstances. It is an essential part of the system that 75 per cent. of the men enlisting for 3 years should extend their colour service. Unless the average of extensions reaches this figure, the power of the battalions at home to find foreign drafts is, *pro tanto*, diminished. As a matter of fact, the anticipations originally formed have not been verified, and the extensions have fallen far short of the necessary figure.

This failure to extend has produced a very serious state of affairs in the Infantry regiments. During the trooping season it was necessary to send to India and the Colonies thousands of men who had only ten months to serve. If no change had been made, the condition of affairs would have been much worse during the coming year.

The following tables (A and B) show the effect of the failure of the men to extend in some of the battalions at Home and in the Colonies. Table C shows the condition of 12 battalions of Infantry at home in January, 1905 :—

Table A.

Table showing the conditions of battalions at home due to the failure of men to extend.

Examples of Battalions at Home.

—	Total Strength.	Under 2 years' service.	Per cent.	On 3 years' engagement.	Per cent.	Under 20.	Per cent.
A	927	623	67	652	70	394	42
B	900	613	68	642	71	378	42
C	1,023	700	68	775	75	454	44
D	544	401	73	377	69	214	39
E	786	484	61	507	64	286	36
*F	1,006	760	75	773	76	418	41
G	752	579	77	558	74	417	55
H	853	533	62	597	70	458	53

* 605 under one year.

Table B.

Table showing the condition of battalions in the Colonies due to the failure of men to extend.

Examples of Battalions in the Colonies.

—	Total Strength.	Under 2 years' service.	Per cent.	On 3 years' engagement.	Per cent.	Under 20.	Per cent.
In S. Africa—							
I	842	391	46	492	58	233	27
	900	417	46	488	54	177	19
At Malta—	1,095	721	65	662	60	424	38
J	1,215	828	68	897	73	526	43
At Gibraltar—							
K... ...	975	520	53	578	59	292	30
At Bermuda—							
L... ...	823	389	47	377	45	168	20

Table C.

Table showing the number of men required for drafts and the number available for drafts respectively.

——	Drafts required.	Number available under usual regulations.
M	183	83
N	176	86
O	172	44
P	197	50
Q	212	60
R	159	63
S	97	111
T	145	55
U	248	48
V	217	15
W	263	25
X	483	78
	2,552	718 = 1,834

In view of these facts, and of the certainty that unless some change were made in the system of enlistment, the evil would reach proportions which would render the finding of drafts absolutely impossible, it became necessary to take immediate action. The Army Council, therefore, decided to close short-service recruiting for the Infantry of the Line, and to substitute, as a temporary measure, only enlistment for nine years with the colours and three years in the Reserve, under the existing conditions of pay.

The step was a bold one, and much doubt was expressed as to whether the necessary recruits would be obtained. I, however, entertained no doubt on this point, and, fortunately, my expectations have been fully justified. Between 1st November, 1904, and 1st March, 1905, no less than 9,720 recruits were enlisted for the Infantry on a nine years' engagement. I have every reason to hope that by the end of the next financial

year at least 30,000 additional long-service men will be found in the ranks of the Infantry battalions at home, and the drafting difficulty, which at one time seemed likely to prove fatal to the Army, will have been nearly, though not altogether, removed.

The Postponement of Two Years' Enlistments.

As the House is aware, it has been the intention of the Army Council to open short-service enlistment for two years, concurrently with the long-service enlistment. As the year went on, however, and extensions did not increase, it became evident that until the balance of the Army was approximately restored, and a due proportion of long-service men enlisted, it would be absolutely impossible, with any regard to the safety of the country, to open the short-service recruiting. For this reason it has been decided by the Army Council to postpone the creation of short-service battalions. It is obvious that such battalions cannot be created as long as no short-service recruits are enlisted, and for the reasons given above it is not, and will not for some time be, safe to enlist any but long-service men.

It should be clearly understood, however, that, while short-service recruiting is thus postponed, it must inevitably be resorted to as soon as long-service recruiting fails to give us a proper number of men, and as soon as the Army Reserve shows signs of depletion.

I need hardly say that I greatly regret it has been found necessary to consent to the postponement of short-service enlistment; but under existing circumstances no other course was open.

Meanwhile, until short-service enlistment is again adopted, those parts of the proposal which I submitted to the House last year, and which are dependent upon the creation of short-service battalions, must necessarily be in abeyance. Among them are :—

a. The addition of Reserve officers for short-service battalions.
b. The creation of 19 additional territorial units.
c. The territorialising of the short-service battalions.
d The creation of a Striking Force.[1]

After describing in this digression what the Army Council have, by force of circumstances, been compelled to leave undone, I return to what they have been able to accomplish.

The Cavalry.

The question of the Cavalry has been very carefully gone into, and a scheme, which, I believe, is calculated to effect a very great improvement in the efficiency of that arm, has been drawn up. This scheme provides for the enlistment of all Cavalrymen at the age of 19 and 19½, and for an 8 years' colour service. It will do away with the necessity for linking of Cavalry regiments for purposes of drafting, which has proved so great a disadvantage in the past, and will avoid the necessity for transferring men from one regiment to another—a most undesirable

[1] Until the Infantry at home have a sufficient number of long-service men, it is useless to organise a Striking Force. To keep battalions up to a strength of 900 men for the purpose of taking part in a foreign expedition is useless and extravagant, so long as 800 out of the 900 are boys, unfitted by age or length of service for fighting at all. In the Cavalry, which are now practically enlisted for long-service, a small Striking Force has already been formed.

and unpopular practice. A small sum will be required to give effect to this valuable reform, and the amount is included in the Estimates.

The following are the main features of the scheme:—

1. A uniform establishment of three strong squadrons with a total strength of 565 of all ranks will constitute the normal strength of all Cavalry regiments serving at home.
2. Two depôts, one for Dragoons and Lancers, the other for Hussars, will take the place of the present 4th or Reserve squadrons of regiments.
3. All recruits will be trained at these depôts, their term of service there before transfer to their regiments being 3 months for those serving in regiments at home, and 6 months for those going to India.
4. The *minimum* of age on enlistment will be 19 years.
   Term of service—8 years with the colours, 4 years with the Reserve.
5. On mobilisation, all Reservists will join at their depôt, be equipped there, and sent to join their regiments.

Further recommendations deal with the formation of a Regimental Reserve of Officers, and with the provision of a Striking Force of three Cavalry regiments.

The Garrison Artillery.

The enlistment for the Garrison Artillery has followed that of the Infantry, and 9 years' Colour service has been substituted for 3 years. This is absolutely essential in a force such as the Garrison Artillery, of which the larger proportion is serving abroad. Under the old system, in order to supply drafts, it was necessary that 100 per cent. of the men should extend.

The Royal Engineers.

The question of the Royal Engineers has been examined by a Committee, and recommendations have been made which have been approved by the Army Council, and which will allow of the gradual reduction of the number of Officers in the Royal Engineers on the British establishment by 107. It is hoped to transfer 45 of these Officers to increase the Indian establishment in the course of the year. I am not, however, satisfied that this is the whole of the economy that can be effected in connection with the Royal Engineers.

The Guards.

The condition of the Brigade of Guards has been such during the last 12 months, as to cause anxiety, both in regard to the establishment of Officers and the numbers of the rank and file.

The deficiency in the junior rank of Officers is a grave matter and one which has called for urgent remedy.

A scheme has been formulated to meet the emergency which it is hoped will bring immediate relief, and result eventually in an adequate supply of Officers with the necessary qualifications; while at the same time no detriment will be caused to Officers of other branches of the Service who obtain Commissions under existing conditions.

The improvement in the recruiting for the Guards has been so marked and so well maintained, since the inauguration of enlistment for 9 years' Colour service for the Infantry of the Line, that the Brigade is almost up to its proper strength.

Co-operation with the Navy.

Joint Manœuvres.

The principles laid down by the Committee of Defence have been enforced, and every effort has been made to render the co-operation between the Army and Navy closer than before. In pursuance of this object, joint Naval and Military Manœuvres were instituted for the first time. A force of all arms was transported by sea from Southampton to the coast of Essex, under the convoy of a squadron of H.M. ships, and a landing on the coast was effected with the aid of the Navy. The operations proved very instructive, and the results have been embodied in a full report. In order that full advantage may be taken of the lessons afforded by the manœuvres, a joint Military and Naval Committee has been appointed to study the various problems which arose in connection with the landing and embarkation.

Interchange of Officers.

An interchange of Officers between the two Services has taken place. Selected Naval Officers have been permitted by the Admiralty to attend the lectures at the Staff College, while two Officers of the Army have in their turn attended the War Course at the Royal Naval College, Greenwich. It is believed that this interchange will be of value to both Services, and will lead to further developments in the same direction.

Submarine Mines.

In November, 1903, a proposal was made to the Admiralty to the effect that the War Office should hand over to the Navy the whole of the submarine mines and their appliances in the naval ports; that similar transfer should take place in naval ports abroad, when a sufficient number of submarine boats was available to protect passages now closed by submarine mines, and that the submarine defences in the home ports, other than naval ports, should be abandoned by the Army as soon as the Admiralty could supply an alternative defence.

These suggestions have been discussed by the Committee of Imperial Defence, and the Admiralty has now agreed to adopt the course proposed. The transfer in the naval ports has already taken place, the submarine mines, launches, and plant generally having been handed over to the Navy.

At the request of the Navy, however, the whole of the gun defences and electric search-lights are still retained by the Army.

Exchanges between War Office and Admiralty.

In exchange for the submarine mining launches and plant received from the Army, the Navy have undertaken to place a large number of guns and ammunition, rendered available by the laying up of obsolete ships, at the disposal of the Army. A considerable number of these guns will be of value for purposes of defence and practice.

10. 3. 05. H. O. Arnold-Forster.

France.—*The New Cavalry Drill Regulations.*—Some criticisms by Lieut.-General von Pelet-Narbonne on the new French Cavalry Drill Regulations, recently formed the subject of a short article in the *Jahrbücher für die deutsche Armee und Marine*, of which the following is a brief summary:—

A decree of the President of the French Republic, dated the 1st September, 1904, introduces a number of such important changes into the Cavalry Drill Regulations of the 12th May, 1899, that the new edition of the instructions issued in consequence must be regarded rather as an entirely new creation. The most important of these changes may be here quoted.

The individual training of the men has been still further greatly simplified. Numerous changes have been introduced for the employment of the rifle in the first line, as it had become necessary to bring the definitions of the Regulations into conformity with the Musketry Instructions of the 7th September, 1903. It is worthy of remark that the standing position is in future to be regarded as the exception, and the kneeling or prone position as the rule, and that the volley, which was formerly so much in favour in the musketry of the Army, has altogether disappeared as a method of firing. The individual dismounted horseman is instructed only to fire when he has received an order to do so, when he is compelled to do so in his defence, or when he has no other means for notifying an enemy's approach. The intention is evidently to prevent him from betraying the position of an outpost by premature firing. The instructions lay down that the cavalry soldier should be taught thorough confidence in his firearm by means of exhaustive and continuous experiments, and that the characteristic of the quick-firing weapon is entirely due to rapidity of loading, and not to over-haste in aiming and in loosing off.

The individual training of the rider to the horse has been greatly simplified, even having regard to the impending introduction of the two years' period of service. Besides, all paces *à deux pistes*, viz. : Shoulder in, passage and half passage, in which the horse leaves two tracks, the turnings on the forehand and on the haunches have been abolished, as also the circle and half circle, which requires only half the width of the school—and this with the approval of the critic in *La France Militaire*, who demands that the cavalry soldier should be trained like a huntsman, since both have essentially to ride straight forward. He forgets, however, that the huntsman can use both hands to his horse, and has not to fight for his life against an armed opponent. Curiously enough, these exercises, which have been eliminated from the training of the soldier, reappear in the section on the training of the horse. One therefore naturally enquires with the critic in the above-mentioned military journal, how the soldier who has not been instructed in these riding exercises is in a position to practise them in breaking in a horse. The same journal wishes them also abolished for horse-training purposes.

Apart from the short chapters of the Drill Regulations on the training of the man and the breaking-in of the horse, which contain nothing very definite on the subject, the French cavalry have no riding instructions, although the want of the same is constantly keenly felt by the cavalry, and have been frequently asked for.

The most drastic changes in the regulations are those connected with dismounted action, which merit special notice. Whilst on the one hand the various extravagances are avoided, which are to be found in the English Regulations with regard to this method of fighting, nevertheless the French instructions give full consideration to the importance that dismounted action by cavalry has recently assumed. Mounted action should, as formerly, remain the chief cavalry method of fighting. The view of some French critics of transforming the cavalry into a mounted infantry has thus been definitely ignored. The directions

given by the new instructions are clearly laid down as follows in the chapter on the employment of cavalry in action :—

"Cavalry fights on foot when the tactical situation or the nature of the country forbids mounted action, as well as when fire action appears suitable in order to support the success of a mounted action. Recourse, then, should always be had to fire action when it is necessary for the proper fulfilment of the object to be attained, but must never become the means for involving cavalry in a prolonged conflict with other corps."

It is thus left to the complete initiative of the commander to attain his object, either by dismounted or mounted action. The conclusion of the above-quoted passage, however, lets it be understood that precautions should be taken against involving cavalry in the unnecessarily frequent and ill-timed employment of fire action. Full and entire cognisance is taken of that offensive spirit which must be the distinguishing feature of all cavalry action.

The Regulations further distinguish between the difference that exists between infantry fire action and that of cavalry, pointing out that in offensive action the cavalry (contrary to the infantry, who have to act in conjunction with other arms in a gradual advance to the attack) must seek success through the suddenness of its attack with the instantaneous employment of all available firearms. The Regulations give, in conclusion, the following important axioms with regard to dismounted action :—

"1. Rapidity of action in order to take advantage of the effect of the fire, so that the firing, whenever possible, may always be opened unexpectedly."

"2. Success in the attack is not to be sought in a gradual advance, but in the suddenness and intensity of the fire."

"3. In defence, such expedients as the ground provides are to be carefully made use of."

"4. Care must always be bestowed on the security of those fighting on foot and of the led horses."

According to the new instructions, dismounted action is also permissible when it comes to breaking through an outpost or a line of sentries. In the defensive, dismounted action may be employed in order to hold important positions until the arrival of the infantry. Some small changes are also introduced into matters of drill and manœuvre, which are not of sufficient importance for special reference to be made to them.

New French Infantry Drill Regulations.—The latest Infantry Drill Regulations of the 3rd December, 1904, which have been introduced to replace those of 1902, deserve the greatest attention. In the introduction it is demonstrated that smokeless powder, greater rapidity of fire, and the flatness of the trajectory of the infantry rifle, as well as the rapidity of fire and enormous range of modern artillery, have introduced a series of phenomena into the battle of which account must be taken. In the next place, the difficulty of reconnaissance has enormously increased. Then, it has become considerably more dangerous for troops in close order to show themselves even to an enemy in small strength. More flexible formations, suitable to the nature of the country, must therefore be adopted in action; groups of men must take the place of the line of skirmishers used up to the present, who will be distributed irregularly along the battle front. Progress in the attack can only be slowly accomplished by moving from cover to cover; the attack must be carefully prepared, and

those troops which would be brought into the advanced line for the delivery of the assault should be kept out of the enemy's sight as long as possible.

In addition to these requirements, necessitated by modern weapons, the Regulations have also had to take into account the reduced period of service with the colours and the ever increasing importance of the Reserves, and have consequently simplified the training to the greatest possible extent. All movements which cannot be employed in war are therefore struck out. With regard to the training of the men, the greatest value is attached to the development of independent judgment, of self-reliance, and of initiative. The Regulations consist of five sections: The 1st Section deals with precepts for training. "Preparation for war is the sole object of the training of troops," stands at the head of this section. Recruits must be able to take their places in field formations by the middle of March. The distribution of the period of the year's training and the standard of efficiency of all ranks is strictly laid down. The 2nd Section deals with individual training. The 3rd with squad drill; and the 4th Section with the drill of the company and of large units. In these sections, which together make up that portion called "The School," the most important simplifications, which had already appeared in the rough draft, were, for the most part, retained. With the exception of the loading, only the "slope" and the "order" have been retained in the manual, the "present" and "shoulder" having been abolished. Compliments are paid at the "slope." The company consists of 4 sections; the sections are, in peace, divided into 2 and in war into 4 squads; in the latter case the section is divided into 2 half sections. At short ranges independent firing will always be ordered, volley firing being only exceptionally used. Battalion, regimental, and brigade drill have all been greatly simplified.

The most important part of the Regulations is the 5th Section, "The Combat," as the instructions hitherto issued for the section, the company, the battalion, etc., will in future be kept under one heading. There are no rules for the infantry combat. The commander organises his troops for action, telling off a certain portion for the fight, and retaining that portion which he wishes to keep at his disposal as *troupes de manœuvre*. It is with these troops, formerly known as *troupes de choc*, that the decisive blow should be delivered. The troops do not deploy for action in connected lines, but in irregularly formed groups, with more or less interval between them, so as to carefully make the best use of the ground. Ground without cover should be avoided, and the advance must be made from cover to cover. Thus the skirmishing line, reinforced by the supports following, will be in a position finally to attack at many points, whilst at others he can avoid doing so, keeping the enemy fixed to his position by constantly threatening an assault. Amongst these it is the business of the commander to know at which point he will throw in his *troupes de manœuvre* at the crisis. In the defence, great stress is laid on the assault and the counter-stroke.

The Regulations give in detail suggestions for the control of infantry in night and local operations. On reconnaissance it will often be necessary to employ small mixed detachments, which will serve both to conceal one's own intentions and to deceive the enemy. Finally, the Regulations give ample scope for the initiative of the commander in all field operations. —*Précis from Internationale Revue über die gesamten Armeen und Flotten.*

WAR NOTES.

After their crushing defeat of the Russians at Mukden, the Japanese kept up a vigorous pursuit of the scattered remnants of General Kuropatkin's army, with the result that the Russians were compelled to abandon an immense amount of carts, ammunition, and war *matériel* about 15 miles north of Mukden. The Japanese are also reported to have dug up a number of Russian guns in the vicinity of Mukden. The Russian casualties in the battles round that place are officially stated to have amounted to 175,000 men, including prisoners, whilst those of the Japanese were 57,000. On the 14th March the Japanese delivered an attack on the centre of the Russian positions on the Fan-ho, south of Tieling, which was repulsed with a loss of 1,000 Japanese, who, however, continued their advance, and pressing the Russians everywhere, occupied Tieling early on the morning of the 16th March. On the following day it was officially announced in St. Petersburg that General Kuropatkin had been relieved of the functions of Commander-in-Chief of the Russian forces in the Far East, and was succeeded in them by General Linievitch, General Kuropatkin being relegated to the command of the 1st Manchurian Army. On the 19th March the Japanese occupied Kai-yuan, having repulsed a Russian counter-attack, and on the 21st March, following up the Russians, entered Chang-tu-fu, 20 miles north of Kai-yuan. On the 2nd April the Japanese occupied Ai-shin-kan, 33 miles north of Tieling. It was officially reported that part of the Japanese force from Chang-tu-fu drove the Russians out of Tsi-lu-shu, 20 miles north of Chang-tu-fu, on the 2nd and 3rd April, and afterwards advanced to San-tao-kan. It is reported from St. Petersburg that General Linievitch has sent 50,000 men to hold Kirin, and that with another 250,000 men he is intrenched in positions half-way between Mukden and Kwan-tchen-tse. The Russians are destroying the railway and bridges, and converting the whole country into a desert to impede the advance of the Japanese.

CORRESPONDENCE AND REPLIES TO QUERIES

SPEED AND CONSUMPTION OF STEAM-SHIPS.

To the Editor of the JOURNAL *of the* ROYAL UNITED SERVICE INSTITUTION.

SIR,—In the October number of your JOURNAL there appeared an interesting article written by Commander J. F. Ruthven, advocating the use of the Admiralty co-efficient for the comparison of ocean steam-ships. I venture, with your kind permission, to accept his indirect challenge, and endeavour to "produce something better," by stating my own personal views on this important question.

I cannot claim to be by profession either a naval architect or an engineer; but probably few have had greater opportunity of studying ships' performances—at any rate, from an owner's point of view—than I have had during the past 21 years, inasmuch as I have closely scrutinised and compared the detailed results of about 140 merchant steamers, varying in size from 3,000 to 10,000 tons gross register, and aggregating some 55 millions of miles.

When I first became responsible for these comparisons I found the following co-efficient in use, viz.:— $\frac{\text{Speed } 2{\cdot}2 \times \text{Displacement } ^{\frac{2}{3}}}{\text{Net coals per day.}}$, but some 16 years ago discarded that in favour of my own very simple, and, I am confident, more reliable formula.

The objections to the original formula were several. In the first place it dealt with *net* coal per day. Now I know from experience that an engineer may, by a too liberal estimate of the auxiliary and harbour consumption, show a "net" considerably below the actual. The merit of his steamer may thus appear better than it really is, and perhaps superior to the results obtained by an engineer who under-estimates his auxiliary consumption. But the shipowner has to pay for *gross* coal, and it is little satisfaction to him to be told that although the gross is heavy, the net is economical, and the consumption per H.P. very low!

What matters it to an owner whether the I.H.P. is great or small? He supplies coal to his steamer for the purpose of transporting her from one port to another within a specified time, and the less coal consumed in the operation the better he will regard the result. H.P., even if the average on a voyage could be reliably ascertained, is merely a link connecting the coal consumed with the material result, and, outside the Engineering Branch, is of use only to the designers of the steamer.

It is possible for the engines and boilers of a steamer to be so efficient as to show a very small consumption of coal per I.H.P., and yet for this economy to be nullified by a faulty propeller.

I maintain, also, that the consumption "per day" is a clumsy factor on which to base the coal requirements or coal endurance on a voyage. It involves a double calculation to ascertain first the time that will be occupied, and then the consumption on the run. It is necessary to know the daily consumption when providing an engine-room crew, but for other purposes it must be admitted that the consumption per mile, or per 1,000 miles, is a far more useful and reliable factor. It is simpler because it avoids the necessity of calculating the time occupied on the trip, and it is more reliable because it varies in a lesser degree than does the coal per day. For instance: Assume a vessel at 13 knots consumes 60 tons per day, and at 15 knots 90 tons per day there is an increase of 50 per cent. on the daily consumption; but it will be found that the consumption per 1,000 miles has increased from 192 to 250 tons, or only 30 per cent. It is always safer to base estimates on those figures which are liable to the least fluctuations.

But to make the figures more comprehensive and satisfactory to the shipowner, it is advantageous to deal only with the *gross* coal per 1,000 miles, and therein include all harbour and auxiliary consumption. He knows what coal he has paid for, and looks to the commander and engineer to account for its expenditure.

To allow for speed and displacement, the "figure of merit" I adopt is the following:—

Gross Coal per 1,000 Miles per 1,000 Tons Displacement per Knot (Sea) Speed.

I am quite prepared to be told that this is a crude and unscientific formula, perhaps more particularly because it assumes the consumption to increase in the direct ratio of the speed and displacement; but an illustration will show how little it may differ in some respects from the formula which assumes the coal per *day* to increase as the 2·2 power of the speed.

Assume, for the sake of argument, that on a round voyage of 25,000 miles a vessel consumes 7,500 tons of coal for an average speed of 14 knots, with an average displacement of 13,000 tons, I would arrive at her figure of merit as follows :—

Gross coal per 1,000 miles $= \frac{7500}{25} = 300$ tons.

Gross coal per 1,000 miles per 1,000 tons displacement $= \frac{300}{13} = 23{\cdot}08$ tons.

Gross coal per 1,000 miles per 1,000 tons displacement per knot of speed $= \frac{23{\cdot}08}{14} = 1{\cdot}65$ tons.

But to exhibit the *same* efficiency at 15 knots, my figure will permit of the consumption on the round voyage being increased as 14 to 15, that is, from 7,500 to 8,036 tons, and the merit is arrived at as before, viz. :—

Gross coal per 1,000 miles $= \frac{8036}{25} = 321$ tons.

Gross coal per 1,000 miles per 1,000 tons displacement $= \frac{321}{13} = 24{\cdot}69$ tons

Gross coal per 1,000 miles per 1,000 tons displacement per knot of speed $= \frac{24{\cdot}69}{15} = 1{\cdot}65$ tons.

Now, assume that in both cases this gross consumption included for harbours (terminal and intermediate), and all auxiliaries, a total consumption of 1,000 tons, the *net* consumption would be :—

6,500 tons at 14 knots, and 7,036 tons at 15 knots.

Observe, then, the relation between the daily net consumption at these speeds :—

Daily net consumption at 14 knots = 25,000 : 336 :: 6,500 : *87·4* per day.

" " 15 " = 25,000 : 360 :: 7,036 : *101·3* "

The *net* daily consumption is thus increased from *87·4* to *101·3*, or by 13·9 tons, and in this particular illustration will be found to approximate the ratio of the 2·2 power of the speed. This figure is naturally influenced by the ratio of the net to the gross consumption, but with vessels employed in similar trades this varies little.

Commander Ruthven admits, as most others do who use the Admiralty co-efficient, that "At very low speeds the consumption may vary as a lower power, and at very high speeds as a higher power than the cube." Is not this in itself sufficient to condemn the figure for purposes of comparison between steam-ships? One thing an owner desires to know is whether a vessel of a particular type, or by a particular builder, is as efficient as another; and I maintain that it becomes impossible to do so by means of any co-efficient that necessitates the application of one figure to one vessel and a different power to the other. Why skip from the 2·2 power to the cube? Why not adopt the 2·5, 2·6, or any other power that may take one's fancy? I presume it depends more on the relation of engine power to the size of the steamer than on the bare speed; for instance, a

cargo steamer may justify the application of the cube to speeds of 12 or 13 knots, whereas a mail steamer might require only 2·2 power for speeds of 13 or 14 knots.

The Admiralty co-efficient is complicated to work out, and results in a mere number, which, however satisfying to engineers, is of little or no practical use to shipowners.

The formula I am advocating is simple, and the final result represents "tons of coal," thus placing vessels more or less on a common plane for comparisons. Each factor which is obtained in its computation is of itself tangible and useful, and the first of these, the coal per 1,000 miles, most of all.

The coal per 1,000 miles per 1,000 tons displacement takes into consideration the displacement, and should be low in cargo boats, where speed is not the first consideration. I admit that my figure rather favours those vessels with large displacements; but from a commercial point of view I consider it essential to ascertain that, at similar speeds, an increased displacement is accompanied by a reduction in the coal used per ton of displacement. The economy in larger carriers *ought* to show itself in the "figure of merit."

The Admiralty figure in treating only with the cube root of the displacement squared practically means this: —It is *assumed* that the wetted surface of the heavier ship will only offer so much extra resistance, and therefore she *should* only consume so much additional coal. But have the lines of the ship and her trim nothing to do with resistance, and is it reasonable to adopt a hard and fast rule as to the relationship between resistance and displacement?

The Admiralty figure appears to be more often used to explain away consumption—it is practically adjusted to suit the power required—than to show that there has been a definite advance in economy.

To obtain the final figure, the coal per 1,000 miles per 1,000 tons displacement is divided by the average speed at sea, and this, I think, I have proved to be satisfactory. It is not a figure suitable for comparing small fast steamers, such as despatch-boats or torpedo destroyers, with large cruisers or merchant steamers; but what figure does do that, and when is such a comparison desired? It is, however, an excellent figure for comparing vessels employed in the same ocean trades, and it shows the improvement effected in modern steam-ships. It is easily applied also to a fleet as a whole or in part. It should not be applied to short runs, but to, say, a round voyage, in order to eliminate as far as possible the influences of weather, and to make sure that the total consumption is true, and not unduly inflated or reduced by errors in the balances on board at the commencement and termination of the period under review. This, however, is desirable with all co-efficients.

If two similar vessels show any material difference in their "figures of merit," it will be found that the least economical has had inferior coal, or has shown an abnormal percentage of propeller-slip, due to adverse weather or a foul bottom, or else those responsible for her working have not made the best of their opportunities to economise.

Any increase in consumption due to an extra long stay in terminal ports or to some special auxiliary consumption (say cargo refrigerators) can, of course, be fully recognised and, when thought necessary, allowed for in the comparisons.

Commanders and engineers frequently say, as Commander Ruthven has written, that on reducing to a certain speed (depending on the individual steamer) all economy ceases because the auxiliary consumption rises without any compensation in that required to drive the propeller. But here again he has dragged the I.H.P. into the question, and I can only say that the speed must be very low indeed and the auxiliary consumption high before that limit is reached. I had an illustration of this a few weeks ago, when two sister vessels with similar propellers had equal opportunities of running economically. One ran at 60 revolutions because the commander and engineer considered that gave the best results per I.H.P. The other was slowed to 53 revolutions because her commander and engineer thought that yielded the lowest consumption per 1,000 miles, and yet complied with the necessary conditions as to time of arrival. Needless to say the latter vessel was far and away the more economical.

Whenever circumstances leave a commander free to run his vessel at her most economical speed, I am confident that a stricter attention paid to the reduction in coals per mile will prove more profitable to the owner than the consideration too often given to the consumption per I.H.P.

Commanders and engineers too will also find in the coal per 1,000 miles a very reliable and simple basis on which to estimate the coal endurance of their vessels.

ALEXANDER GRAY,
Head of the Statistical Department, P. & O. S.N. Co

December, 1904.

Query No. 1.—The books recommended for reading on the Military History subject in the next November examination for promotion are Napier's "History of the Peninsular War," Vols. 1 and 2; Oman's "History of the Peninsular War," Vol. 1; Maurice's "Diary of Sir John Moore"; and Robinson's "Wellington's Campaigns," Part 1.

Query 2.—The 16th Foot were not present at the battles of Dettingen and Fontenoy, nor did they form part of a detachment ordered to secure Ghent in 1745. The error appears to have arisen through the fact that there were two Handasyd's Regiments at that time, viz.: the 16th Foot, or Major-General Roger Handasyd's Regiment, and the 31st Foot, or Colonel William Handasyd's Regiment. It was the latter regiment which took part in the above-mentioned affairs, and lost its colonel and several officers at the battle of Fontenoy. According to old manuscript Regimental Records at the Royal United Service Institution, the 16th Foot was quartered in the United Kingdom from 1716 to 1767, when it embarked for America.

Query 3.—The Enfield rifling was substituted for the Metford segmental grooving, and the Lee-Enfield Mark I. rifle approved, in the year 1895.

NAVAL AND MILITARY CALENDAR.

MARCH, 1905.

1st (W.) 2nd Bn. King's Own Yorkshire Light Infantry left Crete for England in the "Dilwara."

2nd (Th.) The Japanese captured Beniaputse and Sin-min-ting.

" " 1st Bn. King's Royal Rifle Corps arrived in Egypt from Malta in the "Dilwara."

4th (Sat.) 56th Batt. R.F. Artillery } left Egypt for Malta and England
No. 5 Co. Royal Malta Artillery } in the "Dilwara."

7th (T.) No. 5 Co. Royal Malta Artillery arrived in Malta from Egypt in the "Dilwara."

8th (W.) General Kuroki drove the Russians out of Machuntun, after 11 days' fighting, and pursued the enemy northwards. The Russians at the same time evacuated their defences on the Sha-ho.

9th (Th.) The Japanese announced officially that they had cut the railway north of Mukden.

10th (F.) H.M.S. "Pegasus" left Sheerness for Australia.

" " Mukden was occupied by the Japanese, most of the Russian Army being surrounded and cut off.

11th (Sat.) H.M.S. "Tauranga" arrived at Portsmouth from Australia.

12th (S.) H.M.S. "Charybdis" arrived at Plymouth from North America and West Indies.

" " No. 4 Mountain Battery R.G.A. left Egypt for England in the "Soudan."

" " The Japanese Commander-in-Chief reported that he had captured 40,000 Russian prisoners and 60 guns. Subsequently the total Russian losses, including prisoners, were estimated at 175,000 men, and the Japanese at 57,000.

13th (M.) The Army Estimates were issued, amounting to £29,813,000.

15th (W.) 56th Batt. R.F. Artillery } arrived in England from Egypt
2nd Bn. King's Own Yorkshire L.I. } and Crete in the "Dilwara."

" " A Japanese attack on the Russian centre at Fan-ho was repulsed.

16th (Th.) Tieling was occupied by the Japanese.

17th (F.) General Linievitch was appointed Commander-in-Chief of the Russian Forces in the Far East in the place of General Kuropatkin.

18th (Sat.) Kai-yen was evacuated by the Russians.

" " An Agreement was entered into between Great Britain, Italy, and the Mullah with regard to Somaliland.

20th (M.) H.M.S. "Diadem" left the Nore for China.

" " The Japanese occupied Chang-ta-fu.
General Kuropatkin was appointed to command the 1st Manchurian Army Corps.

22nd (W.) Launch of first-class battle-ship "Kashima" from Elswick Yard, Newcastle-on-Tyne, for Imperial Japanese Navy.

23rd (Th.) No. 4 Mountain Battery R.G.A. arrived at Southampton from Egypt in the "Soudan."

24th (F.) H.M.S. "Charybdis" paid off at Chatham.

" " H.M.S. "Sphinx" paid off at Bombay.

" " 12th and 37th Companies R.E. left South Africa for England in the "Dunera."

25 h (Sat.) H.M.S. "Sphinx" recommissioned at Bombay.
30th (Th.) 38th Brigade R.F.A. left India for England in the "Sicilia."
" " Announced that the Ameer of Afghanistan had signed an Agreement confirming and continuing the one that existed between the late Ameer and the British Government.

FOREIGN PERIODICALS.

NAVAL.

ARGENTINE REPUBLIC.—*Boletín del Centro Naval.* Buenos Aires: February, 1905.—"The Cruise of the 'Uruguay.'" "Singular Transformation of a Harbour." "New Oceanographic Terminology." "The 'Grubb' System of Sights." "Indicating Apparatus for Ensuring the Methodical Stoking of Furnaces in Boilers." "The Economy of Steam Turbines in Cruisers." "The Cruise of the 'Presidente Sarmiento.'" "Naval Notes."

AUSTRIA-HUNGARY. — *Mittheilungen aus dem Gebiete des Seewesens.* No. 4. Pola: April, 1905.—"Observations on the Russo-Japanese War" (*continued*). "Some Remarks on Firing at Sea." "The Economy of Steam Turbines in Cruisers." "The German Naval Estimates for 1905." "Foreign Naval Notes."

BRAZIL.—*Revista Maritima Brazileira.* Rio de Janeiro: December, 1904.—"The Reorganisation of the Navy." "A Study on Blockade Operations." "Lighthouses Constructed with Armoured Cement." "South American International Relations." "Abnormal Deviations of the Compass." "Foreign Naval Notes."

FRANCE.—*Revue Maritime.* Paris: December, 1904.—"The Armament of Battle-ships of the Future: Defensive and Offensive Power." "Publications of the Hydrographical Department." "Life on Board a Fishing Sloop in the North Sea." "Foreign Naval Notes."

La Marine Française. Paris: March, 1905.—"The Lesson from a Catastrophe." "Naval Programmes." "Three Naval Policies." "Towards Victory." "Automobile Navigation." "German Yachting." "The Death of Commandant Diacre." "Foreign Naval Notes."

Questions Navales: Revue Générale de la Marine. Paris: March, 1905. — "Our Mercantile Marine." "A Glance at Naval Tactics: A New Tactical Formation in Dispersed Order." "New Regulations for the U.S. Mercantile Marine." "Home and Foreign Naval Notes."

Le Yacht. Paris: 4th March, 1905.—"The Naval Estimates for 1905: M. Thomson's Programme." "Yachting Notes." "On the Safety of Ships." 11th March.—"A New Under-Secretary of State." "Yachting Notes." "The New Mercantile Marine Law." "Distribution of German Naval Forces." 18th March.—"Hydrographical Missions." "Yachting Notes." "The Ocean Yacht Race." "The Newfound-

landers : *Inscrits Maritimes.*" 25th March.—"Comparative Trials between the Submarines 'Aigrette' and 'Z' at Cherbourg." "Yachting Notes." "Anatomical Models of Ships of War." "Launch of the Trans-Atlantic Mail-steamer 'La Provence.'" "The Pensions of Widows of the *Inscrits Maritimes.*"

Le Moniteur de la Flotte. Paris : 4th March, 1905.—"The Hull Incident." "The Replacing of Obsolete Ships." "The Navy in Parliament." "The Discussion on the Naval Estimates." "The Russo-Japanese War." "The Modifications in the Annexe of New Constructions." "The English Naval Estimates." "The Navy in Parliament." "The Russo-Japanese War." 18th March. — "The Hydrographical Engineers." "English Naval Construction." "The Navy in Parliament." "The Russo-Japanese War." 25th March.—"Yellows against Whites." "The Navy in Parliament." "The 'Sully.'" "The Extra-Parliamentary Committee on the Navy." "The New Mail-steamer 'La Provence."

GERMANY.—*Marine Rundschau.* Berlin : April, 1905.—"Something about the Guns, Torpedoes and Sea-mines in the French Navy." "The Development of Belligerent Rights in General and in Naval War in Particular." "The Report of the Secretary of the U.S. Navy for 1903-04." "The French Naval Estimates in the Chamber of Deputies." "The English Naval Estimates for 1905." "The 2nd Memorandum of the First Lord of the Admiralty on the Distribution of the English Fleet, 15th March, 1905." "Foreign Naval Notes."

ITALY.—*Rivista Marittima.* Rome: March, 1905.—"Notes on the Balancing of the Distribution of Power of Steam Engines." "The De Forest System of Wireless Telegraphy." "The Extreme East and the Russo-Japanese War." "On the Preparation of Ships for War." Letters to the Director:—"Naval Institutes and the Superior Naval School." "An Apparatus intended to Regulate Combustion." "International Law and the Use of Submarines in Naval War." "Foreign Naval Notes."

PORTUGAL. — *Revista Portugueza, Colonial e Maritima.* Lisbon : February, 1905.—"The False Names of the African Coast." "The Necessity for a Fleet" (*concluded*). "Some Hydrographic Problems of the Gaza Country" (*continued*). "Some Journeys in Angola." "Naval Notes."

SPAIN.—*Revista General de Marina.* Madrid: March, 1905.—"Gas and Petrol Motors." "The Naval Future of Spain." "The Presumed Cost of the Italian Navy." "The Evolution of the English Battle-ship." "The Trials of Ships of War." "The Gun Problem in Spain." "The Superior School of Arts and Industries at Cadiz." "Foreign Naval Notes."

MILITARY.

ARGENTINE REPUBLIC.—*Revista del Boletín Militar del Ministerio de Guerra.* Buenos Aires : 1st February, 1905. — "Reorganisation of the

General Staff of the Army." "The Transformation of the Cavalry." "The Russo-Japanese War. Hand Grenades at Port Arthur." "One of the Causes of the Success of the Japanese." "Some Applications of Physics to Military Science." "The Battle between Infantry and Machine Guns." "Provisional Regulations for the Infantry Manœuvres." 15th February.—"New Regulations for the Superior School of War." "The Battle between Infantry and Machine Guns" (*continued*). "Some Applications of Physics to Military Science" (*continued*). "The Transformation of the Cavalry." "The Geneva Convention." "Provisional Regulations for the Infantry Manœuvres."

AUSTRIA-HUNGARY. — *Danzer's Armee Zeitung.* — Vienna: 2nd March, 1905. — "Lecture at the Vienna Military Club." "The Russo-Japanese War" (*continued*). "The Experiences of an Infantry Regimental Commander" (*continued*). "Development of Navies, 1904-05" (*continued*). 9th March. — "Russia's Campaigns, 1854-55 and 1904-05." "The Russo-Japanese War" (*continued*). 16th March.—"The New Work of the Imperial Archives." "The Russo-Japanese War" (*continued*). "The New French Infantry Drill Regulations." "The Development of Navies, 1904-05" (*continued*). 23rd March.—"The Russo-Japanese War" (*continued*). "The Future Rendezvous of the Fleets of all the Great Powers in East Asiatic Waters." "The Experiences of an Infantry Regimental Commander" (*continued*). "Sport in Military Schools." 30th March.—"The Experiences of an Infantry Regimental Commander" (*continued*). "The Russo-Japanese War" (*continued*). "The New Work of the Imperial Archives." "The Attack and Defence of Fortresses by Russian Troops."

Organ der Militär-wissenschaftlichen Vereine. Vienna: Vol. LXX. Part 2.—"Intelligence from the Imperial War-Archives." "The Imperial Infantry Drill Regulations for 1903." "Infantry Training." "Military Assistance at Water Catastrophes."

Mittheilungen über Gegenstände des Artillerie- und Genie-Wesens. Vienna: March, 1905.—"The Fighting round Port Arthur." "Ballistic Apparatus."

BELGIUM.—*Bulletin de la Presse et de la Bibliographie Militaires.* Brussels: 28th February, 1905.—"Statistical Tables with regard to the Military Organisation, Armament, and Supply of Troops, the Area, Population, and the Military, and Financial Charges of the various European Powers on the 1st February, 1905."

15th March, 1905.—Has not been received. 31st March.—"The Lyons-Vichy Military Ride." "The Russo-Japanese War" (*continued*).

FRANCE.—*Revue du Cercle Militaire.* Paris: 4th March, 1905.—"Report on the War Budget for 1905." "The Russo-Japanese War" (*continued*). "Episodes of the Mexican Expedition" (*continued*). 11th March.—"The Russo-Japanese War" (*continued*). "The Report on the War Budget for 1905" (*concluded*). "Episodes of the Mexican Expedition" (*continued*). 18th March.—"Instruction of Reserve Officers." "The Russo-Japanese War" (*continued*). "1815." "Episodes of the Mexican Expedition" (*continued*). 25th March.—"The Russo-Japanese War" (*continued*). "Military Charges of a Province in the 17th and 18th Centuries." "Episodes of the Mexican Expedition" (*continued*).

Le Spectateur Militaire. Paris: 1st March, 1905.—"The Russo-Japanese War" (*continued*). "The Russo-Turkish Campaign of 1877-78" (*continued*). "The *Moral* of our Soldiers" (*continued*). "Military History and Organisation of Railways" (*continued*). "Days on the Lisaine, 15th, 16th, and 17th January, 1871" (*continued*). 15th March.—"The Russo-Japanese War" (*continued*). "The Russo-Turkish Campaign of 1877-78" (*continued*). "The *Moral* of our Soldiers" (*continued*). "Days on the Lisaine, 15th, 16th, and 17th January, 1871" (*continued*). "Military History and Organisation of Railways" (*continued*).

Revue du Service de l'Intendance Militaire. Paris: February, 1905.—"Historical Sketch of the Customs Legislation of Corn in France at the End of the 18th Century." "An Army Administration of the 18th Century" (*continued*). "Baobab Grains."

March, 1905.—Has not been received.

Revue du Génie Militaire. Paris: February, 1905.—"Combination of Infantry and Engineers in Field Works." "Notice of the Location of the Mailly Camp of Instruction."

March, 1905.—Has not been received.

Revue Militaire des Armées Etrangères. Paris: March, 1905.—"Landing Manœuvres in Italy, September, 1904." "Simultaneous Exercises of the German Railway Troops in 1904."

Revue d'Histoire. Paris: March, 1905.—"The Campaigns of Marshal Saxe" (*continued*). "The Campaign of 1794 with the Army of the North" (*continued*). "Sidi-Brahim" (*continued*).

Journal des Sciences Militaires. Paris: March, 1905.—"History of French Infantry Tactics from 1791 to 1905" (*continued*). "What should be retained from the Russo-Japanese War" (*continued*). "Individual Instruction of the Firer, and Education of the Nervous System." "Weapon used Unexpectedly" (*continued*). "The Employment of Artillery in Combination with Infantry on the Defensive." "The Conquest of Valentia by the French Army of Aragon, 1811-1812." "The Action at Villersexel, 9th January, 1871."

Revue de Cavalerie. Paris: March, 1905.—"On the Training of the Troop by means of Individual Training." "Cavalry in the Field" (*continued*). "Letters to Plok" (*continued*). "Colonel Méda, 1770-1812" (*concluded*). "The Principles of the New English Cavalry Regulations" (*continued*).

Revue d'Artillerie. Paris: March, 1905.—"Theory of Spring-recoil Gun Carriages with Elastic Band and Trail-spade." "Chronophotographic and Mathematical Study of the Horse's Paces" (*continued*). "Notes on the Driving of a Three-in-Hand Team."

GERMANY.—*Militär Wochenblatt.* Berlin: 2nd March, 1905.—"A Debt of Honour of the Army." "Siege Operations." 4th March.—"The Hottentot Rebellion" (*continued*). "Intelligence from the French Army." 7th March.—"Creep or Rush?" "The Hottentot Rebellion" (*continued*). 9th March.—"The Development of Wireless Telegraphy, for Military Purposes, by the Balloon Battalion from October, 1897, to the End of 1901." "Working the Horse on the Lunge." "The Battles round Ladysmith in October, 1899." 11th March.—"Once more Port Arthur." "History of the Bavarian Army." "Working the Horse on the Lunge"

(*continued*). 14th March.—"Changes in the German Infantry Drill Regulations." "Seydlitz." "Working the Horse on the Lunge" (*concluded*). 16th March.—"General von Radowitz." "Should a Corps Artillery be Re-constituted?" 18th March.—"The Remount and Increase of Colonial Troops for South-West Africa." "Swiss Ideas regarding Mountain Troops." 21st March.—"From the Union of Military Aid Societies." "The Remount and Increase of Colonial Troops for South-West Africa" (*continued*). "Intelligence from the English Army." 23rd March.—"Authentic Contributions and Investigations regarding the History of the Prussian Army." "The 1849 Campaign in Italy and the Decisive Resolves of the Piedmontese." "The Remount and Increase of Colonial Troops for South-West Africa" (*concluded*). "Intelligence from the Belgian Army." 25th March.—"The Mobilisation of 1870-71." "Gunnery Instructions of the Japanese Field Artillery." 28th March.—"The Mobilisation of 1870-71" (*continued*). "Changes in the Defences of Port Arthur, according to Arrangement and Necessity." "Intelligence from the Anglo-Indian Army." 30th March.—"Long-Distance Rides." "The Mobilisation of 1870-71" (*concluded*). "Intelligence of the Austro-Hungarian Forces."

Internationale Revue über die gesamten Armeen und Flotten. Dresden: March, 1905.—"Military and Naval Intelligence from Austria-Hungary, Argentine, Belgium, Bulgaria, France, Germany, Great Britain, Italy, Japan, Russia, Spain, Switzerland, and the United States." *Supplement 60.*—"The English Navy, 1904-05." *French Supplement 72.*—"Saragossa, Sebastopol, Paris, and Port Arthur." "Machine Gun Detachments." "Under Count von Haeseler." "The Russo-Japanese War." "The Modern Battle-ship." "Battle Tactics." "Present State of the most important Navies."

Jahrbücher für die Deutsche Armee und Marine. Berlin: March, 1905.—"Psychological War Studies." "Plan-Shooting of Foot Artillery." "Infantry Problems." "The Armoured Q.F. Gun and its Ammunition Wagon." "Reorganisation of Individual Firing under Battle Conditions. "The Netherland Army and its Organisation for War." "Remount of the German Army and Home Horse-breeding." "Microscopic Map Photography." "Russia and the Russo-Japanese War."

Neue Militärische Blätter. Berlin: February, 1905. No. 7.—"Russian Volunteers for the War." "Solution of the Tactical Problem No. 2." "Preparatory Problems for the Passing for Interpreter." "Military Events of the Week." "Military Intelligence." No. 8.—"Retrospect and Prospect of the Present War in the Far East." "German and French Cavalry." "The Russian Cavalry Raid." "Preparatory Problem for the Passing for Interpreter." "Mr. Lee's Speech and its Review." "Military Events of the Week." "Military Intelligence." March, 1905.—Nos. 9 and 10.—"Sweden." "Battle by Night." "Tactical Problem No. 3." "Military Events of the last two weeks." "Military Intelligence."

ITALY.—*Rivista di Artiglieria e Genio.* Rome: January, 1905.—"The Russo-Japanese War" (*continued*). "Tactical-Technical Exercises in the Sappers and Miners." "Military Transport." "*A Propos* of the Use of Artillery in the Russo-Japanese War." "Opinions of General Rohne on the Use of Field Artillery in the Russo-Japanese War." "Military Notes."

Rivista Militare Italiana. Rome: March, 1905.—"The Stratagems of Modern War in the Alps." "The Rations and Bread of our Soldiers." "Distribution of Volunteer Cyclists." "Study on the Transport of Wounded during Battle." "Teikoku Banzai." "Some Notes on the Manœuvres of the Alpine Groups." "The Education of the Soldier." "The Russo-Japanese War."

PORTUGAL. — *Revista de Engenheria Militar.* Lisbon: February, 1905.—"Military Ballooning." "The Chalk Deposits in the District of Leiria." "The Russo-Japanese War." "The Reorganisation of the Spanish Army."

Revista de Infanteria. Lisbon: March, 1905.—"The Reorganisation of the Colonial Army." "A Desperate Situation." "Company Training." "Mounted Infantry." "The Practical School of Infantry." Foreign Military Notes."

RUSSIA.—*Voïénnyï Sbórnik.* St. Petersburg: January, 1905.—"Contribution to the History of the Year 1812." "Russian Military Monuments." "From Zerevchan to Taek-Kepri" (*continued*). "Collective Firing in the German Army." "Cavalry Maintenance." "Stereoscopic Telemetres." "Care of the Sick and Wounded in War" (*continued*). "Field Diary." "The War with Japan." "Report on the Recruiting Operations in 1905." "The Berlin Technical Military Academy."

February and March, 1905.—Have not been received.

SPAIN.—*Memorial de Ingenieros del Ejército.* Madrid: January, 1905.—"The Engineers' Balloon Park: Observations of the Total Eclipse of the Sun on the 30th August, 1905, by means of Balloons." "Explosive Water." "Mechanical Traction in the Field." "Trials with Field Wireless Telegraphy Stations, System Braun-Slavy-Arco."

Revista Técnica de Infanteria y Caballeria. Madrid: 1st March, 1905.—"The Paucity of the Militia." "The Necessity for all Available Men Passing through the Army." Lecture at the Military Club: "The Terrain in Battle." "Machine Guns in the Field." "Various Cavalry Actions" (*continued*). "Cavalry Raids in Manchuria." 15th March.—"Means to Avoid the Defects attributable to Compulsory Service." "Various Cavalry Combats." "Machine Guns in the Field" (*continued*).

Revista Científico-Militar y Biblioteca Militar. Barcelona: March, 1905. — "The New Manœuvre Regulations for the French Infantry." "The Purification of Water in the Field." "A General Military College." "Port Arthur." "A Short Rifle for Infantry."

SWITZERLAND.—*Revue Militaire Suisse.* Lausanne: March, 1905.—"Alpine Troops." "Reorganisation of Artillery of Position." "Belgian Infantry Musketry Instruction."

UNITED STATES. — *The Journal of the Military Service Institution.* Governor's Island, N.Y.H.: March-April, 1905. — "Experiences of our Army since the Outbreak of the War with Spain" (Gold Medal Prize). "Lines of Information: Their Development and their Value to Strategy and Tactics." "Our New Infantry Drill Regulations." "Physical Preparedness and the Organised Militia." "Present Needs of the Coast Artillery." "Surprise of the Tabor Bridge, Vienna." "The Army

Chaplain: His Work and Worth." "The Calibre of the Revolver." "Historical Miscellany." "The United States and Spain." "Translations and Reprints." "Comment and Criticism."

The United Service. New York: March, 1905.—"China and the Allies." "A Study of Attacks upon Fortified Harbours." "A Ballad of the Whaler." "Discipline." "Strategy and Tactics of the Russo-Japanese War." "The British and German Fleets." "Our Contemporaries." "Editorial Notes." "Service Salad." "N. Mayo Dyer, Rear-Admiral, U.S. Navy."

Journal of the United States Artillery. Fort Monroe, Va.: January-February, 1905. — "Sea Coast Gun-Carriage Design." "Aiming by Telescopic Sight compared with Aiming by Open Sights." "High-Angle Fire." "Training Ranges and Long-Range Firing." "Gun Arm for Mortar Battery Plotting Board." "Professional Notes."

NOTICES OF BOOKS.

The Sikhs. By General Sir JOHN J. H. GORDON, K.C.B. London: William Blackwood & Sons.

Within the small compass of something less than 250 pages, Sir John Gordon has managed to give us the whole of the stirring and romantic story of the evolution of a small religious sect into one of the most magnificent military types that the world has seen. It is barely four hundred years ago that Nanak, a wandering devotee, commenced his teachings; at the beginning of the 17th century Har Govind caused his followers to lay aside their rosaries and draw the sword in defence of their faith; and it was *his* grandson, Govind Singh, the tenth, the greatest, and the last of the Gurus, who founded the Khalsa, the Sikh Commonwealth, converted "a horde of undisciplined peasants into enthusiastic soldiers animated with religious fervour, and laid the corner-stone of that nation, which Ranjit Singh, a hundred years later, raised in the Punjab on the ruins of the Moghul Empire." Sir John Gordon tells us in brief the story of the Sikhs—of their persecuted life, of the years of warfare, of their ultimate triumph, of the days of Hari Singh—

"... who died before Jumrood,
"When the dry and thirsty nullahs ran red with Moslem blood;
"When thro' the Khyber passes the foe rode fast and far,
"And loudly wailed to dark-eyed maids in grovelled Kandahar."

There are two very interesting chapters dealing with the rule of the "Lion of the Punjab"; and one is glad to remember his appreciation for and amicable relations with the British, and to recall too to mind that, although there is much in British rule in India and in our dealings with its princes which one cannot but regret, we have no reason to reproach ourselves in regard to the outbreak, the conduct, or the results of our two wars with the Sikhs. It seems to us that there is nothing of which we Englishmen, as builders of Empire, have more reason to be proud, than our capacity for fighting with a man one day and inducing him to shed his blood for us on the next. And what comrades the Sikhs have been to us during the half century which has elapsed since their final defeat at Gujerat! They have fought for us in China, in Abyssinia, in Afghanistan, and in Africa,

but it would be hard to beat the record of their deeds in 1857, what time John Lawrence held the Punjab in the hollow of his hand and sent the flower of its manhood down to the Ridge at Delhi.

Sir John Gordon has given us a notable book written by an enthusiast; it should find a place in every soldier's library, whether he belong to the Indian Army or to one of those fortunate British regiments which learn their trade and gain priceless experience in the land of the Five Rivers.

PRINCIPAL ADDITIONS TO LIBRARY DURING MARCH, 1905.

Esprit de la Guerre Moderne—La Manœuvre de Saint-Privat, 18 Juillet —18 Août, 1870. By General H. Bounal. Vol. I. 8vo. 11s. (Librairie Militaire, R. Chapelot et Cie.) Paris, 1904.

The American Colonies in the Seventeenth Century. By H. L. Osgood. 2 vols. 8vo. 21s. (The Macmillan Co.) New York, 1904.

The East African Protectorate. By Sir C. Eliot. 8vo. 15s. (Edward Arnold.) London, 1905.

The Journal of the Royal Agricultural Society of England. 8vo. Vol. 64. (Presented.) (John Murray.) London, 1904.

The Crisis of the Confederacy. By Captain C. Battine. 8vo. 16s. (Presented.) (Longmans, Green & Co.) London, 1905.

Chaplains of the Royal Navy, 1626-1903. Anon. Crown 8vo. (Presented.) (Wilkins & Son.) Portsmouth, 1905.

Wellington's Campaigns, 1808-1815. Part I., 1808-9-10, Roleia to Busaco. By Major-General C. W. Robinson. 8vo. 3s. 6d. (Hugh Rees, Ltd.) London, 1905.

Purchas His Pilgrims. 8vo. Vols. I., II., by Samuel Purchas. Hakluyt Society. (James MacLehose & Sons.) Glasgow, 1905.

The Principles of Strategy. By Captain E. Nash. Crown 8vo. 3s. 6d. (Presented.) (Kegan Paul, Trench, Trübner & Co., Ltd.) London, 1905.

La Marine Russe dans la Guerre Russo-Japonaise. By Captain N. L. Klado. Translated into French by R. Marchand. Crown 8vo. 2s. 8d. (Berger-Levrault et Cie.) Paris, 1905.

La Victoire à Sedan. By A. Duquet. Crown 8vo. 2s. 8d. (Albin Michel.) Paris, 1905.

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